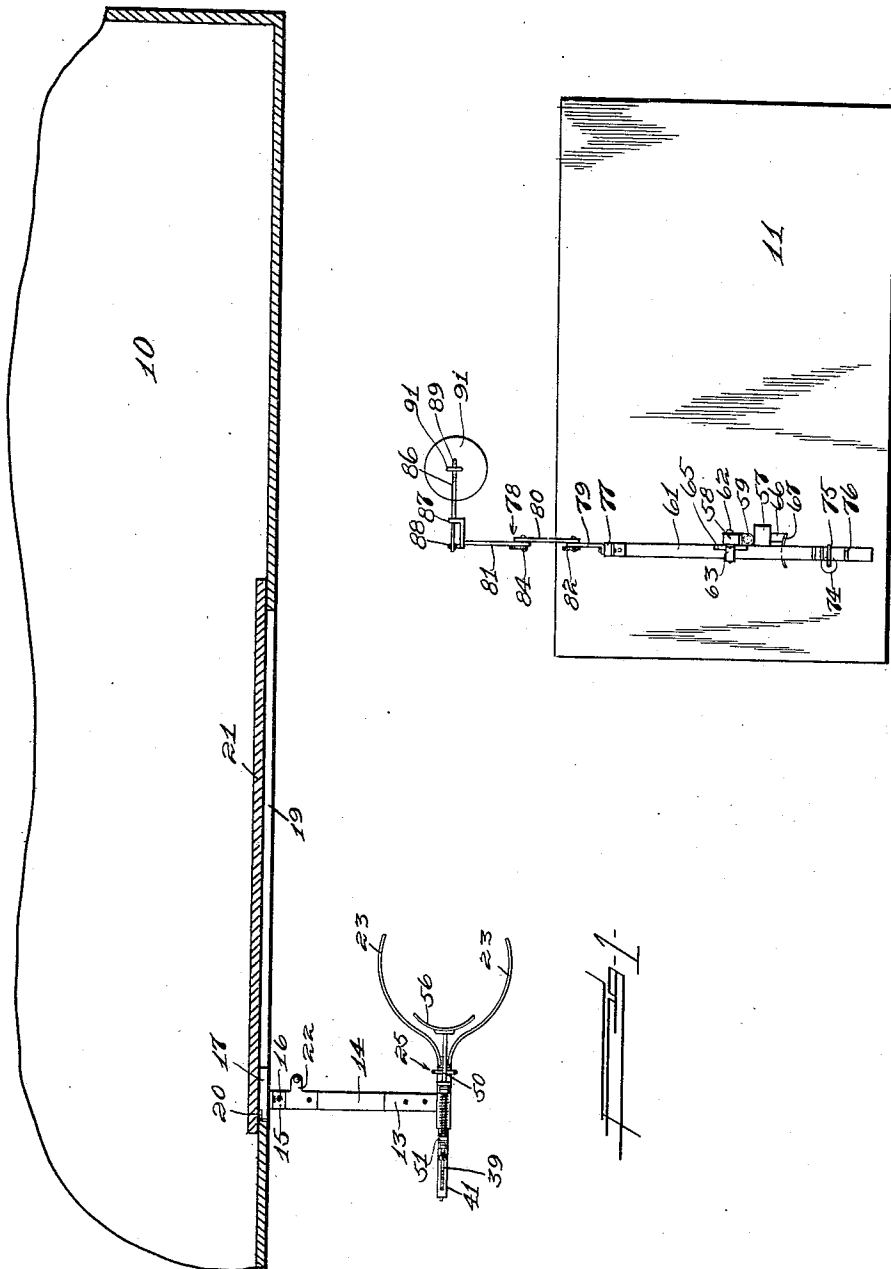


G. N. DOUTTIEL.
MAIL BAG HANDLING APPARATUS.
APPLICATION FILED APR. 22, 1913.

1,065,432.

Patented June 24, 1913.

4 SHEETS—SHEET 1.



Witnesses.
J. M. Lyles
B. M. Lyles

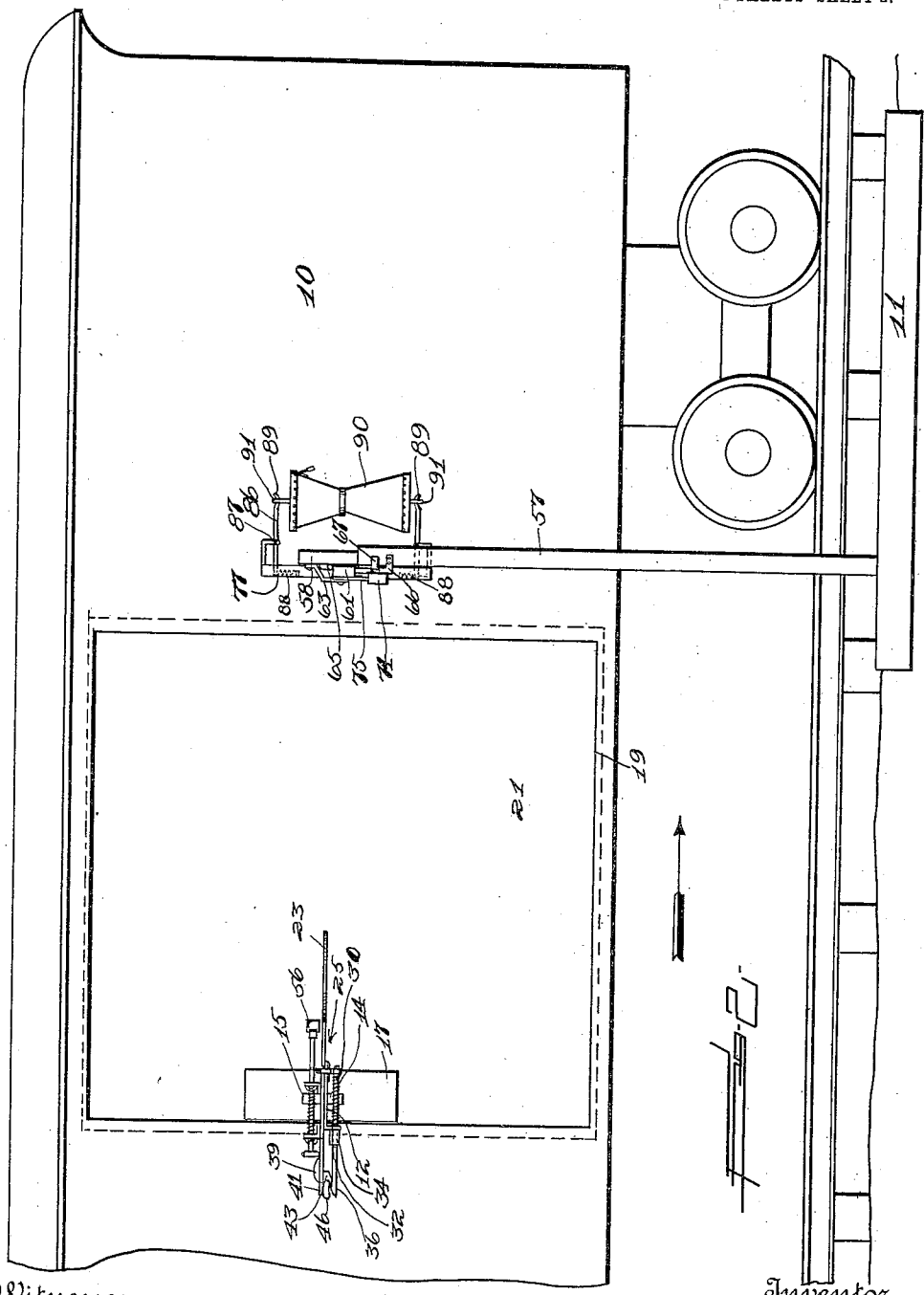
By

Inventor
George N. Douthiel,
C. L. Parker
Attorneys

G. N. DOUTTIEL.
MAIL BAG HANDLING APPARATUS.
APPLICATION FILED APR. 22, 1913.

1,065,432.

Patented June 24, 1913.
4 SHEETS—SHEET 2.



Witnesses
J. M. Lytle.
B. H. Hume

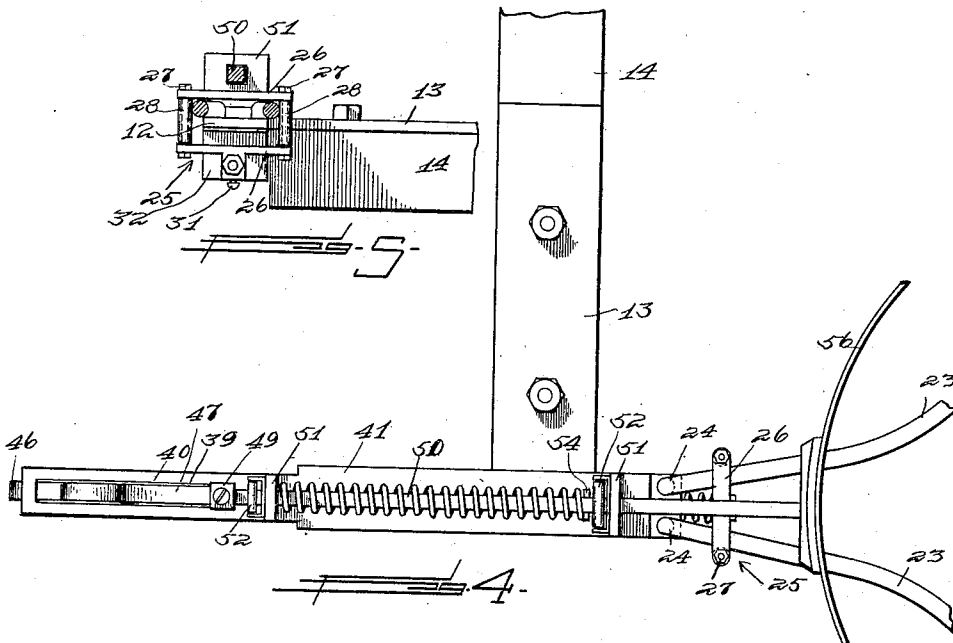
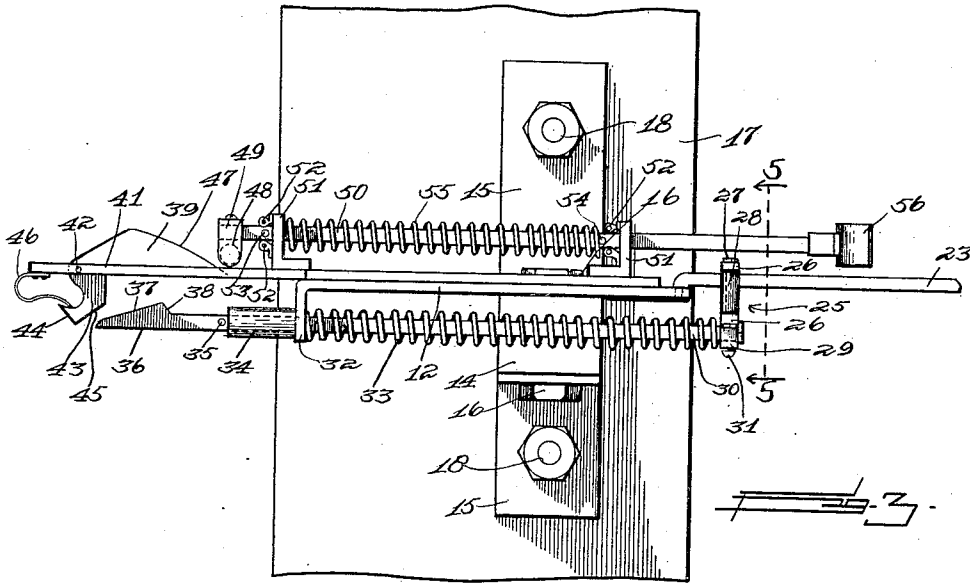
Inventor
George N. Douthiel,
C. L. Parker,
Attorneys

G. N. DOUTTIEL.
MAIL BAG HANDLING APPARATUS.
APPLICATION FILED APR. 22, 1913.

1,065,432.

Patented June 24, 1913.

4 SHEETS-SHEET 3.



Witnesses

M. Lyles.
B. Kishkawa.

By

Inventor
George N. Douthiel,

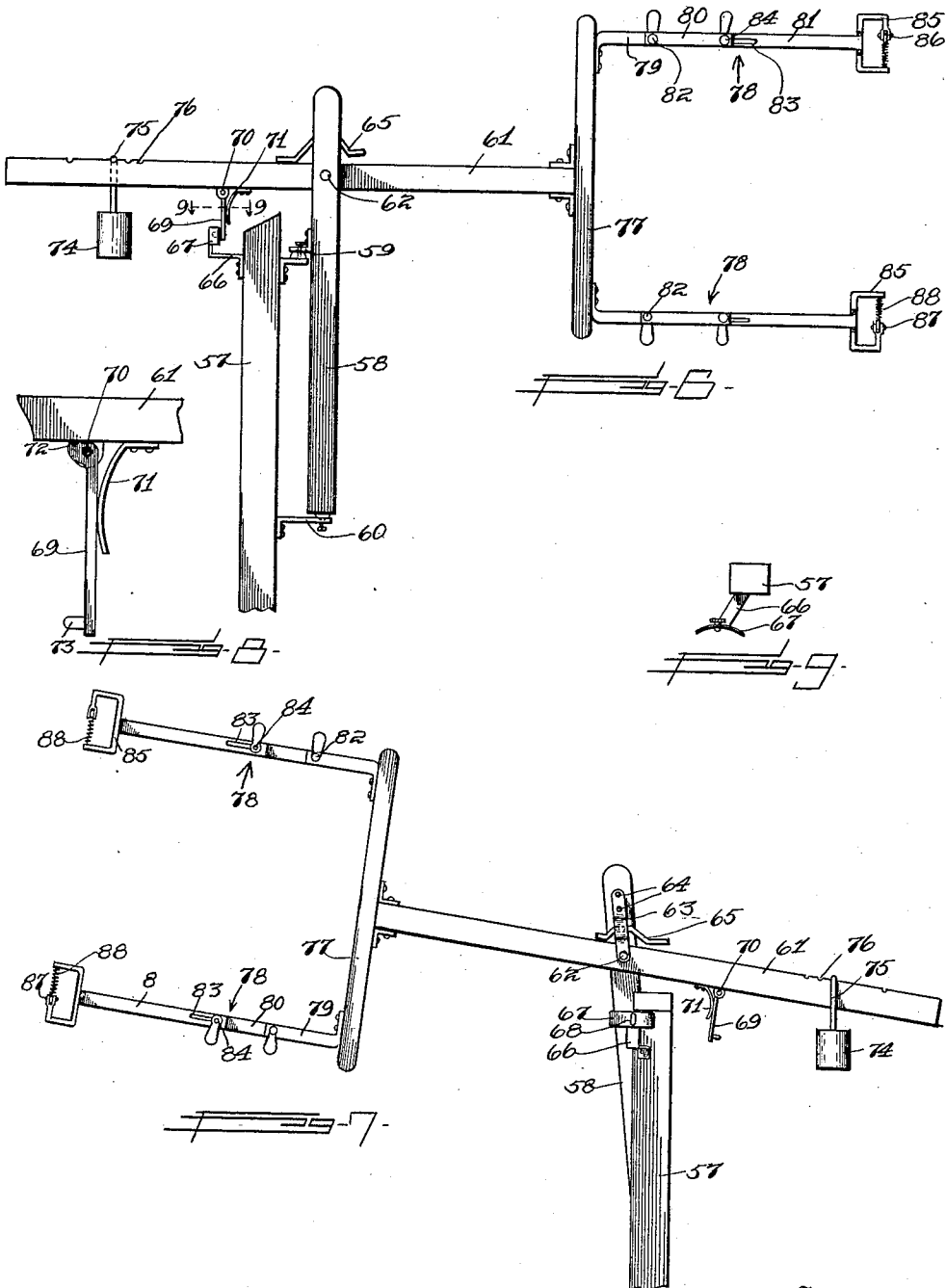
C. L. Parker.
Attorneys

G. N. DOUTTIEL.
MAIL BAG HANDLING APPARATUS.
APPLICATION FILED APR. 22, 1913.

1,065,432.

Patented June 24, 1913.

4 SHEETS—SHEET 4.



Witnesses
J. N. Lyles
R. H. Lyles

334

Inventor
George N. Douthiel,
C. L. Parker
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE N. DOUTTIEL, OF WILKINSBURG, PENNSYLVANIA.

MAIL-BAG-HANDLING APPARATUS.

1,065,432.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed April 22, 1913. Serial No. 762,770.

To all whom it may concern:

Be it known that I, GEORGE N. DOUTTIEL, a citizen of the United States, residing at Wilksburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Mail-Bag-Handling Apparatus, of which the following is a specification.

My invention relates to mail bag catching and delivering apparatus.

An important object of this invention is to provide apparatus of the above mentioned character, which will transfer the mail bag from a moving car to a station or from the station to the moving car, without liability of the mail bag being lost or subjected to undue injuries.

A further object of this invention is to provide apparatus of the above mentioned character, including catching means so constructed that the mail bag is securely caught or gripped between a plurality of elements which are swung inwardly by means actuated by the impact of the mail bag therewith.

A further object of the invention is to provide catching means which may be readily swung into the car or out of the way when not in use.

A further object of this invention is to improve the construction of apparatus of the above mentioned character in general, with a view of increasing its efficiency and durability.

Other objects and advantages of this invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is a plan view of the complete apparatus, showing the catching and delivery means, Fig. 2 is a side view of the same, Fig. 3 is an enlarged side view of the catching means, Fig. 4 is an enlarged plan view of the same, Fig. 5 is a transverse sectional view taken on line 5—5 of Fig. 3, Fig. 6 is an enlarged side view of the delivery means, taken at a right angle to the showing of Fig. 2, Fig. 7 is an enlarged view of the delivery means similar to that shown in Fig. 2, parts thereof being released and shown as swung away from the track, Fig. 8 is an enlarged

detail view of a pivoted catch or latch included in the delivery means, and, Fig. 9 is a plan view of the post included in the delivery means taken on line 9—9 of Fig. 6.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 10 designates a railway car, such as a mail car, and the numeral 11 the station.

The mail bag catching means comprises, (see more particularly Figs. 3 and 4), a horizontal body portion or plate 12, which is rigidly connected with an extension 13. This extension is rigidly connected with an arm 14. Disposed above and below the inner end of the arm 14, are brackets 15, rigidly connected therewith by means of bolts 16, such brackets being in turn rigidly connected with a horizontally swinging support 17, by means of bolts 18 or the like. As clearly shown in Figs. 1 and 2 the horizontally swinging support 17 is disposed adjacent the rear vertical edge of the door opening 19 and is pivotally connected therewith by means of hinges 20 or the like. These hinges are mounted upon the inner sides of the support 17 and the side of the car, whereby the support 17 is capable of being swung inwardly into the car but cannot be swung outwardly beyond the side of the car. The support 17 is held or locked in its open position by a sliding door 21, which engages the support 17, when the door is moved to its closed position, as clearly shown in Fig. 1. Other means however may be employed to lock the support 17 in its outer position. Connected with the arm 14 is a laterally extending arm 22, by means of which the arm 14 and the entire catching means may be swung inwardly through the door opening 19. Referring again more particularly to Figs. 3, 4 and 5, it will be seen that the numeral 23 designates preferably curved forwardly diverging arms, which receive therewith, and clamp, the mail bag. The arms 23 are pivotally connected with the forward end of the body portion 12 as shown at 24. Any suitable form of pivotal connection may be employed for this purpose. Slidably mounted upon the inner ends of the catching arms 23 is an operating open frame or yoke 25, which is preferably rectangular, as clearly shown in Fig. 5. This

frame or yoke comprises upper and lower plates 26, which are rigidly connected by bolts 27. Sleeves or rollers 28 are rotatably mounted upon the bolts 27, and engage the catching arms 23. It is thus seen that upon the forward movement of the frame or yoke 25 the catching arms 23 will be swung inwardly toward each other. Rigidly connected with the lower plate 26 of the frame or yoke 25 is a depending extension or lug 29, apertured to receive a reciprocatory rod 30, which is preferably formed square in cross-section. A clamping bolt 31 serves to rigidly attach the rod 30 to the extension 29. The rear end of the body portion 12 is bent downwardly for forming a depending extension 32, apertured for receiving the reciprocatory rod 30. A suitably stiff compressible and expansible coil spring 33 surrounds the rod 30 and is confined between the depending extension 32 and the extension 29 of the frame or yoke 25. The reciprocatory rod 30 operates through a guide sleeve 34, rigidly connected with the depending extension 32, and adapted to be engaged by a stop 35, which is rigidly mounted upon the rear end of the reciprocatory rod 30, as shown. The rod 30 is provided at its rear end with a head 36 having an inclined rear lifting face 37 and an inclined forward locking face 38.

The numeral 39 designates a bolt or latch, operating within a slot 40, formed through the rear end of an upper horizontal plate 41, which is rigidly attached to the body portion 12. The bolt 39 is pivotally connected with the upper plate 41 by a transverse pin 42 or the like. The plate has an approximately L-shaped depending extension 43 which is provided with a rear inclined locking face 44 and a forward inclined lifting face 45. The L-shaped extension 43 is engaged by a suitably stiff leaf spring 46 attached to the rear end of the plate 41, as shown. It is thus seen that when the reciprocatory rod 30 is moved rearwardly, when the catching means is being set, the lifting face 37 will engage the lifting face 45, whereby the depending extension 43 will be swung rearwardly and upwardly until the locking face 38 engages the locking face 44. When the locking face 38 engages the locking face 44 the rod 30 is held against forward longitudinal movement and the spring 33 retained under compression. It is obvious that by swinging the upper portion of the bolt 39 downwardly, the head 36 will be released whereby the spring 33 will force the rod forwardly. The upper portion of the bolt 39 is provided with a forward inclined face 47 to be engaged by a roller 48, carried in the forked end of a head 49, which is rigidly mounted upon the rear end of an upper reciprocatory rod 50. This reciprocatory

rod 50 operates through openings formed in brackets 51, which are rigidly mounted upon the plate 41. Suitably mounted upon the brackets 51 are guide rollers 52, disposed above and below the reciprocatory rod 50, which is square in cross-section. Rigidly mounted upon the rear end of the rod 50 is a stop 53, adapted to engage the rear bracket 51 to positively limit the forward movement of the rod 50.

The numeral 54 designates a transverse pin, carried by the rod 50 and engaged by a suitably stiff and expansible coil spring 55. This coil spring surrounds the rod 50 and engages the rear bracket 51. Rigidly connected with the forward end of the reciprocatory rod 50 is a preferably curved head or buffer 56, which is struck by the mail bag and operated thereby.

It is obvious that upon the rearward longitudinal movement of the rod 50, the head 49 will force the upper portion of the pivoted bolt 39 downwardly, to release the rod 30.

I will now proceed to describe the station delivery means.

The delivery means comprises an upstanding post 57.

The numeral 58 designates an upstanding support or bar, which is pivotally connected with the post 57 to swing in a horizontal plane by means of hinges 59 and 60, the hinge 60 having its pivot point disposed at a much greater distance from the post 57 than that of the hinge 59, whereby when the support 58 and associated elements are released, they automatically swing laterally away from the track and with relation to the post 57. Disposed upon one side of the support 58 is a horizontal arm 61, which is pivotally connected therewith to swing in a vertical plane by means of a transverse bolt 62, which also passes through a bracket 63, which is rigidly connected at its upper end with the support 58, as shown at 64. The vertically swinging movement of the arm 61 in both directions is positively limited by an approximately U-shaped bracket 65, which is rigidly connected with the support 58. Rigidly connected with the upper end of the post 57 and upon the opposite side thereof with relation to the hinges 59 and 60 is a bracket 66, provided at its upper end with a horizontal head 67 having an upstanding slot 68 formed therethrough.

The numeral 69 designates a depending latch, which is pivotally connected with the arm 61, as shown at 70, and is swung in one direction by a leaf spring 71, attached to the arm 61, as shown. The latch 69 is provided at its upper end with a laterally extending head 72, which engages the arm 61 to positively prevent the latch 69 being swung laterally beyond a given point in one direction. At its lower end the depending latch

69 carries a laterally extending bolt 73, the end of which is tapered or rounded. The bolt 73 is adapted for insertion within the opening 68 of the head 67.

5 The numeral 74 designates a counter-weight, which is adjustably mounted upon the outer or free end of the arm 61, the same being provided with a hook 75, adapted for insertion within transverse grooves 76 formed upon the upper surface of the arm 61.

10 Rigidly connected with the inner end of the arm 61 is an upstanding transverse bar 77, to which are rigidly connected forwardly extending horizontal arms 78. Each of the arms 78 is preferably formed in a plurality of sections 79, 80 and 81. The section 80 is pivotally connected with the section 79 by means of a clamping bolt 82, whereby the section 80 may be vertically angularly adjusted. The section 81 is provided with an elongated slot 83, to receive a clamping bolt 84 carried by the section 80, whereby the section 81 may be longitudinally adjusted and angularly adjusted, when desired. Rigidly connected with the outer sections 81 are approximately L-shaped brackets 85, with which are pivotally connected normally horizontal holding fingers 86, as shown at 87. The inner ends of these holding fingers are connected with retractile coil springs 88, which are connected with the opposite ends of the approximately L-shaped brackets 85. It is obvious that these springs 88 tend to swing the outer curved ends 89 of the holding fingers 86 apart.

25 The numeral 90 designates a mail bag, of the type that is provided with a contracted central portion. At its opposite ends the mail bag 90 carries rings 91, to be placed upon the curved ends 89.

Although I have shown the catching means suitably mounted upon the car, and delivery means suitably mounted at the station, it is to be understood that there is a catching means at the station and the car is also to be equipped with a delivery means. As the construction of these delivery and catching means is identical with those already described, except that slight changes will be made in the means connecting them with their supports, and as the present illustration is thought to clearly disclose the invention, it is thought that no further showing is necessary.

55 The operation of the apparatus is as follows:—The mail bag 90 to be transferred from the station to the car, is connected with the holding fingers 86 by passing the rings 91 over the curved ends 89. The mail bag 90 will now overcome the counter-weight 74, whereby the bolt 73 being inserted within the opening 68, such bolt will be retained therein. The catching apparatus carried by the car is now set, the catching arms 23

being swung to their open position and the reciprocatory rod 30 being moved rearwardly to be locked in this position by the engagement of the bolt 39 with the head 36. The catching apparatus is then swung 70 to its outer position and the support 17 locked in the outer position by moving the door 21 to its closed position. When the catching apparatus is brought into proximity to the mail bag 90, such mail bag strikes or impinges against the head, or buffer 56 causing the rod 50 to travel longitudinally and rearwardly, whereby the head 49 will swing the bolt 39 downwardly and release the rod 30. Upon this rod being released the spring 33 will quickly force the rod 30 forwardly, whereby the open frame or yoke 25 will swing the catching arms 23, which grip the mail bag disposed therebetween. The mail bag is thus taken off of 75 the holding fingers 86. The operator within the car now opens the door 21 and swings the support together with the catching means into the car, whereby the mail bag may be removed therefrom and the catching means reset, as is desired. Upon the mail bag 90 being removed from the holding fingers 86, the counter-weight 74 will at once swing the arms 61 in a vertical plane, whereby the tapered or rounded end of the bolt 73 will engage the end wall of the opening 68 and be thereby moved out of the opening. As soon as this takes place, owing to the location of the pivot points of the hinges 59 and 60 at different distances from 80 the post 57, the arm 61 and associated elements will automatically swing laterally away from the track and remain in that position until reset.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit 85 of the invention or the scope of the subjoined claims.

Having described my invention, I claim:—

1. In apparatus of the character described, a support, a pair of normally forwardly 90 diverging mail bag catching arms pivotally connected with the support, spring operated means for swinging the arms toward each other, a latch to normally hold the spring operated separate means against movement, and means to operate the latch including a reciprocatory element arranged near and between the mail bag catching arms.

2. In apparatus of the character described, a support, a pair of normally forwardly 95 diverging mail bag catching arms pivotally connected with the support, a yoke adapted to be moved longitudinally of the mail bag catching arms to swing the same inwardly toward each other, means to effect such 100

movement of the yoke, and means operated by the impact from the mail bag therewith to actuate the first named means.

3. In apparatus of the character described, the combination with a support, of a pair of mail bag catching arms pivotally connected therewith, a frame to move longitudinally of the arms to swing the same inwardly toward each other, a reciprocatory rod suitably mounted upon the support and connected with the frame, a spring to move the rod longitudinally in one direction, a latch pivotally connected with the support and normally holding the reciprocatory rod against longitudinal movement in one direction, a second reciprocatory rod suitably mounted upon the support and provided with means to operate the pivoted latch, and a head connected with the second reciprocatory rod and disposed near the pivoted arms.

4. In apparatus of the character described, the combination with a horizontally swinging support connected with a car body adjacent the door opening thereof and adapted to be moved through the door opening, of a sliding door mounted within the car body and adapted to assume a position behind the

swinging support to prevent its inward movement, and mail bag handling means mounted upon the swinging support.

5. In apparatus of the character described, the combination with a support, of a pair of normally forwardly diverging pivoted catching arms, and means actuated by the impact from a mail bag to swing the arms inwardly, including an element slidably engaging the pivoted arms to move longitudinally thereof.

6. In apparatus of the character described, the combination with normally forwardly diverging pivoted mail bag catching arms, of automatically operating reciprocatory means having slidable engagement with the mail bag catching arms to swing the same inwardly, a latch to hold the reciprocatory means against movement, and reciprocatory apparatus to operate the latch and receiving its movement by impact with the mail bag.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE N. DOUTTIEL.

Witnesses:

H. H. LOVETT,
HAVEN V. WOLF.