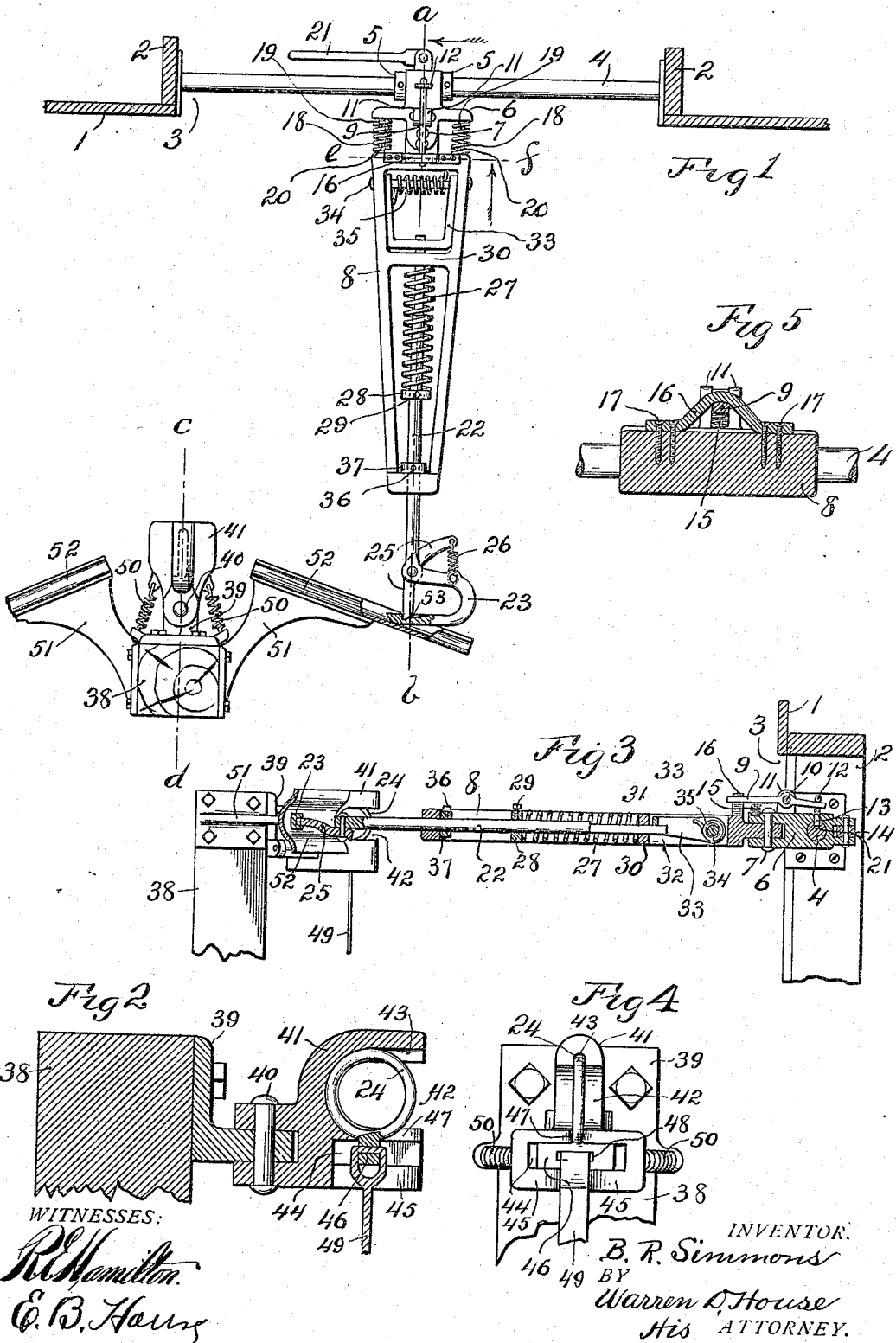


B. R. SIMMONS.
MAIL BAG PICK UP MECHANISM.
APPLICATION FILED NOV. 20, 1908.

933,273.

Patented Sept. 7, 1909.



UNITED STATES PATENT OFFICE.

BURT R. SIMMONS, OF KANSAS CITY, KANSAS.

MAIL-BAG-PICK-UP MECHANISM.

933,273.

Specification of Letters Patent.

Patented Sept. 7, 1909.

Application filed November 20, 1908. Serial No. 463,676.

To all whom it may concern:

Be it known that I, BURT R. SIMMONS, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Mail-Bag-Pick-Up Mechanisms, of which the following is a specification.

My invention relates to improvements in mail bag pick-up mechanisms.

The object of my invention is to provide a simple and efficient mechanism by means of which mail bags may be picked up at stations along a line of railway and deposited upon a moving car.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawings illustrative of my invention—Figure 1 is a view partly in plan and partly in horizontal section of my improved apparatus, the mail bag catching device being shown horizontally disposed and engaging one of the guides leading to the mail bag supporting device. Fig. 2 is a vertical sectional view taken on the dotted line *c-d* of Fig. 1, the parts being shown enlarged. Fig. 3 is a vertical sectional view taken on the dotted line *a-b* of Fig. 1. Fig. 4 is a front elevation of the mail bag supporting device, having mounted therein a ring attached to a mail bag. Fig. 5 is an enlarged vertical sectional view, taken on the dotted line *e-f* of Fig. 1.

Similar characters of reference denote similar parts.

In the accompanying drawings which illustrate the preferred form of my invention, 1 denotes a portion of an ordinary mail car, provided with the ordinary jambs 2, disposed at opposite sides of one of the side doors 3. A horizontal bar 4 extends transversely across the door 3 and has its ends rigidly secured to the jambs 2 respectively. Pivoted on the bar 4 to swing vertically between two collars 5, secured on the bar 4, is a member 6. Pivoted by means of a vertical pin 7 to swing horizontally on the member 6 is a support 8 which, with the member 6, is adapted to be swung from a vertical position to the raised horizontal position shown in Figs. 1 and 3. To releasably lock the support 8 and member 6 in the horizontal position, the following described mechanism is

employed:—A lever 9, disposed transversely to the bar 4, is pivotally mounted on a horizontal pin 10 which is supported at its ends upon two ears 11, provided on the upper or outer side of the member 6. The rear end of the lever 9 is inserted in the eye 12, provided at the upper end of a vertically slidable pin 13, shown in Fig. 3, which is adapted to enter a transverse hole 14, provided in the bar 4. At the opposite side of the pivot pin 10 is a vertical coil spring 15, the lower end of which bears upon the upper side of the member 6, when said member is horizontally disposed, and the upper end of which bears against the underside of the lever 9. The forward end of the lever 9 is disposed below and adapted to come in contact with the diverging lower sides of an inverted V-shaped plate 16, which is secured rigidly by screws 17 to the support 8. When the support 8 is disposed in a central position with its medial line at right angles to the bar 4, the lever 9 will be disposed in the center of the plate 16, in which position the locking pin 13 will be inserted in the hole 14 of the bar 4. In case that the support 8 is swung laterally on the pin 7, the plate 16 will be moved so that one of its inclined lower sides will bear upon and depress the outer end of the lever 9, thus swinging upward the inner end of said lever and raising the pin 13 out of the hole 14, thereby permitting the member 6 and support 8 to swing by gravity from the horizontal position shown in Figs. 1 and 3, to a vertical position.

For normally retaining the support 8 in the central position shown in Fig. 1, I prefer to employ two coil springs 18, which are disposed sides of the pin 7, intermediate the member 6 and the support 8, and which respectively encircle horizontal projections 19, extending forwardly from the member 6, and corresponding projections 20, extending rearwardly from the support 8. The two springs 18 by their tension will normally swing the support 8 to the central position but will yield to permit lateral movement of said support.

Pivoted at one end to the member 6 is a lever 21, by means of which the member 6 may be readily swung from a vertical to a horizontal position.

A mail bag catching device is carried by

the support 8 and in its preferable form comprises a longitudinally movable shank 22, mounted in the support 8 at right angles to the bar 4. The outer end of the shank 22 is provided with a horizontal hook portion 23, which is adapted to engage a supporting ring 24 with which each mail bag is provided. Pivoted on the shank 22 is a latch 25, which normally extends across the open portion or mouth of the hook 23. A coil spring 26, having one end secured to the hook 23, and the other end to the latch 25, normally retains the latch in the closed position shown in Fig. 1. When a ring 24 is engaged by the hook 23 that portion of the latch 25 extending across the mouth of the hook 23 is inwardly forced to a position admitting the entrance of the ring, after which the latch will assume the closed position, thereby retaining the ring on the hook. For normally holding the shank 22 and hook 23 in the outer position shown in Fig. 1, a coil spring 27 is mounted on the shank 22 and has its outer end bearing against a collar 28, adjustably secured on the shank 22 by means of a set screw 29. The rear end of the spring 27 bears against a transverse portion 30 of the support 8.

In order that the hook 23 may face in either direction to correspond with the direction of movement of the car 1, the shank 22 is rotatively mounted in the support 8 and is provided with a square rear end portion 31 which is adapted to enter a notch 32, provided on the underside of the transverse portion of a U-shaped lever 33, which is mounted between opposite sides of the support 8 to which it is pivotally connected by means of a transverse pin 34. A coil spring 35, encircling the pin 34, has one end secured to the support 8 and has its other end secured to the U-shaped lever 33. The tension of the spring 35 is such as to retain the lever 33 engaged with the square portion 31 of the shank 22. By swinging the lever 33 so as to clear the shank 22, the shank may be rotated to a position in which the hook 23 will be disposed in a position diametrically opposite that shown in Fig. 1. When the shank is so positioned the lever 33 is again permitted to engage the shank to hold it in the position to which it has been adjusted.

To limit the outward movement of the shank 22; it has secured upon it by means of a set screw 36 an adjustable collar 37 adapted to bear against the inner side of the support 8.

While the preferable form of my invention provides that the hook 23 be rotative on the support 8, and also movable inwardly and outwardly thereon, the shank 22 and hook 23 may be stationary relative to said support.

Any desired means for locking the shank

22 in its two operative positions may be employed, if desired, in lieu of the locking mechanism hereinbefore described.

The mail bag supporting mechanism comprises the following described parts:—Adjacent to the track, not shown, which is traveled by the car 1, is set a vertical post 38, which has secured to it on the side adjacent to the car a bracket 39 to which is pivoted by means of a vertical pin 40 a bag supporting device, comprising a member 41, having on the side adjacent to the track a horizontal recess 42 through which the hook 23 is adapted to pass during the operation of catching a mail bag. The member 41 at the upper and rear sides of the recess 42 is provided with a vertical groove 43 adapted to receive therein the ring 24 which is attached to a mail bag, not shown. In the forward side of the member 41 that is, the side adjacent to the car 1, and below the recess 42 is a horizontal recess 44 having at its lower side two oppositely disposed horizontal shelves 45 adapted to support a rectangular block 46, which is preferably an integral part of the ring 24. A vertical slot 47 connects the recesses 42 and 44 for receiving the ring 24. The block 46 is preferably provided with a transverse horizontal hole 48 through which passes a strap 49 which is secured to and supports the mail bag.

For retaining the member 41 in the central normal position shown in Fig. 1, two coil springs 50 are preferably employed. These springs are disposed respectively at opposite sides of the member 41 to which they are attached. The opposite ends of said springs are secured to the bracket 39 at opposite sides of the pin 40. The tension of the springs is such that they will normally force the member 41 to the central position, shown in Fig. 1, in which position the hook 23 is adapted to pass through the recess 42 and engage the ring 24. To guide the hook 23 into the recess 42 any suitable guiding means may be employed. The means which I prefer for this purpose comprise two horizontal brackets 51 secured respectively to the post 38 at opposite sides of the bracket 39. The brackets 51 are provided each with a horizontal guiding grooved portion 52 disposed in the same plane as the recess 42. The grooved portions 52 diverge rearwardly from opposite sides of the member 41.

In operating my invention, the ring 24, which is attached to the mail bag that it is desired to transfer to a car 1, is slipped into the vertical groove 43 and slot 47, the block 46 being slid at the same time into the recess 44 with the strap 49 disposed between the shelves 45.

When the car 1 approaches the post 38 on which is supported the mail bag to be transferred, the operator on the car, by means of

the lever 21, swings the member 6 and support 8 to the horizontal or raised position shown in Fig. 1 and Fig. 3. The said parts are automatically retained in this position by means of the locking pin 13 entering the hole 14, as already described. As the car 1 passes the post 38, the hook 23 enters the grooved portion 52 of the adjacent bracket 51 and is guided into a position for entering the recess 42 of the member 41, the spring 27 yielding to permit the hook 23 following the guide 52. When the hook 23 enters the recess 42 the hook will enter the eye of the ring 24 which will be struck by the rear end of the hook, thereby forcing the ring 24 and member 41 laterally to a position in which the ring 24 will be slid from the groove 43, at which time the block 46 will also be withdrawn from the recess 44. The springs 50 will now force the member 41 to assume again the central position shown in Fig. 1. As the hook 23 snatches the ring 24 from the member 41, the resistance offered by one of the springs 50 will cause the support 8 to be swung laterally on the member 6 to a position in which the plate 16 will depress the outer end of the lever 9, thereby, as already described, withdrawing the pin 13 from the hole 14, thus permitting the support 8 to swing from a horizontal to a vertical position within the car door 3. By depressing the latch 25 inwardly the ring 24 of the transferred mail bag may be withdrawn from the hook 23, after which the apparatus will be ready for another operation.

Any suitable means may be employed for limiting the outward movement of the latch 25 to prevent the accidental disengagement of the ring 24 with the hook 23. In the drawings I have shown the inner side of the hook 23, near its point, as having a recess 53 into which the outer end of the latch 25 passes in its closing movement. The outer end of this recess is disposed so that the latch 25 is held disposed transversely across the mouth of the hook.

Various modifications of my invention, within the scope of the appended claims, may be made without departing from its spirit.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. The combination with a mail bag catching device, of a support carrying said device pivoted to swing vertically and horizontally, means for locking said support in a raised position, yielding means for holding said support against horizontal movement, and means actuated by the horizontal swinging of said support for releasing said locking means.

2. The combination with a mail bag catching device, of a support carrying said de-

vice pivoted to swing vertically and horizontally, means for locking said support in a raised position, resilient means for holding said support against horizontal swinging movement, and means actuated by horizontal swinging of said support for releasing said locking means.

3. The combination with a mail bag supporting device, of a support on which said device is pivoted to swing horizontally to and from a central position, resilient means for forcing said device to the central position, a mail bag catching device adapted to cooperate with said supporting device, and means for automatically guiding said catching device into a position for cooperating with said supporting device.

4. The combination with a support, of a mail bag supporting device pivoted on said support to swing horizontally to and from a central position, resilient means for normally forcing said device to the central position, a mail bag catching device movable past said support, and guides on said support at opposite sides of said supporting device for guiding the mail bag catching device when moving in either direction to said supporting device.

5. The combination with a mail bag supporting device, of a mail bag catching device adapted to cooperate with said supporting device, a support for said catching device pivoted to swing vertically and horizontally, means for locking said support in a raised position, resilient means for normally forcing said support horizontally to a central position, in which position the catching device is adapted to cooperate with the mail bag supporting device, and means actuated by the horizontal swinging from the central position of said support for releasing said locking means.

6. The combination with a mail bag supporting device pivoted to swing horizontally from a central position, of resilient means for normally forcing said device to a central position, a mail bag catching device adapted to cooperate with said supporting device when the supporting device is in the central position, a support carrying said catching device pivoted to swing vertically, means for locking said support in the raised position, and means controlled by said catching device for releasing said locking means.

7. The combination with a mail bag supporting device pivoted to swing horizontally from a central position, of resilient means for normally forcing said device to a central position, a mail bag catching device cooperating with said supporting device, a support carrying said catching device pivoted to swing vertically and horizontally, means for locking said support in a raised position in which position the catching device is adapted to cooperate with said sup-

porting device, resilient means for normally swinging said support horizontally to a central position, and means actuated by horizontal swinging of said support for releasing
5 said locking means.

8. The combination with a mail bag supporting device, of a mail bag catching device adapted to cooperate with said supporting device, said catching device being provided
10 with a hook for catching the mail bag, and a support for said catching device adapted to move past the mail bag supporting device for bringing said two devices into cooperative action, the said hook being reversible on
15 said support so as to cooperate with the supporting device when the said support passes the supporting device in either direction.

9. The combination with a support movable in a horizontal plane in a rectilinear direction, of a mail bag supporting device, a mail bag catching device rotative from one position on said support to a position diametrically opposite, the said catching device having a bag catching hook adapted to cooperate with said supporting device, releasable means for locking said catching device in either of said two positions, supporting means adapted to be carried by a car on which said support is pivoted to swing vertically, locking means for holding the said support in a rigid position, and means controlled by the detaching of a mail bag from said supporting device by said catching device for releasing said locking means.
30

10. The combination with a horizontal bar, of a member pivoted to swing vertically thereon, a support pivoted to said member to swing horizontally, a mail bag catching device carried by said support, resilient
40 means intermediate said support and said member for normally forcing said support to a central position, locking means connecting

said member and said bar for holding said member and support in a raised position, and means actuated by horizontal swinging
45 of said support on said member for releasing said locking means to permit said support and said member swinging downward.

11. The combination with a vertically swinging support, of a mail bag catch device comprising a bag engaging hook provided with a shank inwardly and outwardly slidable on said support, resilient means for normally forcing said shank and hook outward, a mail bag supporting device adapted
55 to cooperate with said catching device, and a horizontal guide for forcing said hook inwardly to a position in which it can cooperate with said bag supporting device.

12. The combination with a horizontal bar adapted to be supported across the side door of a car, of a member pivoted on said bar, said member having means by which it may be swung in a vertical plane, a support pivoted to said member to swing horizontally,
65 resilient means intermediate said support and said member for normally forcing said support to a central position, means connecting said member and said bar for locking said member in a raised position, means
70 actuated by the horizontal swinging of said support for releasing said locking means, a mail catching device carried by said support, and a mail bag supporting device adapted to cooperate with said catching device when
75 the said support is in the raised position and passes said mail bag supporting device.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

BURT R. SIMMONS.

Witnesses:

E. B. HOUSE,
A. S. BROWN.