

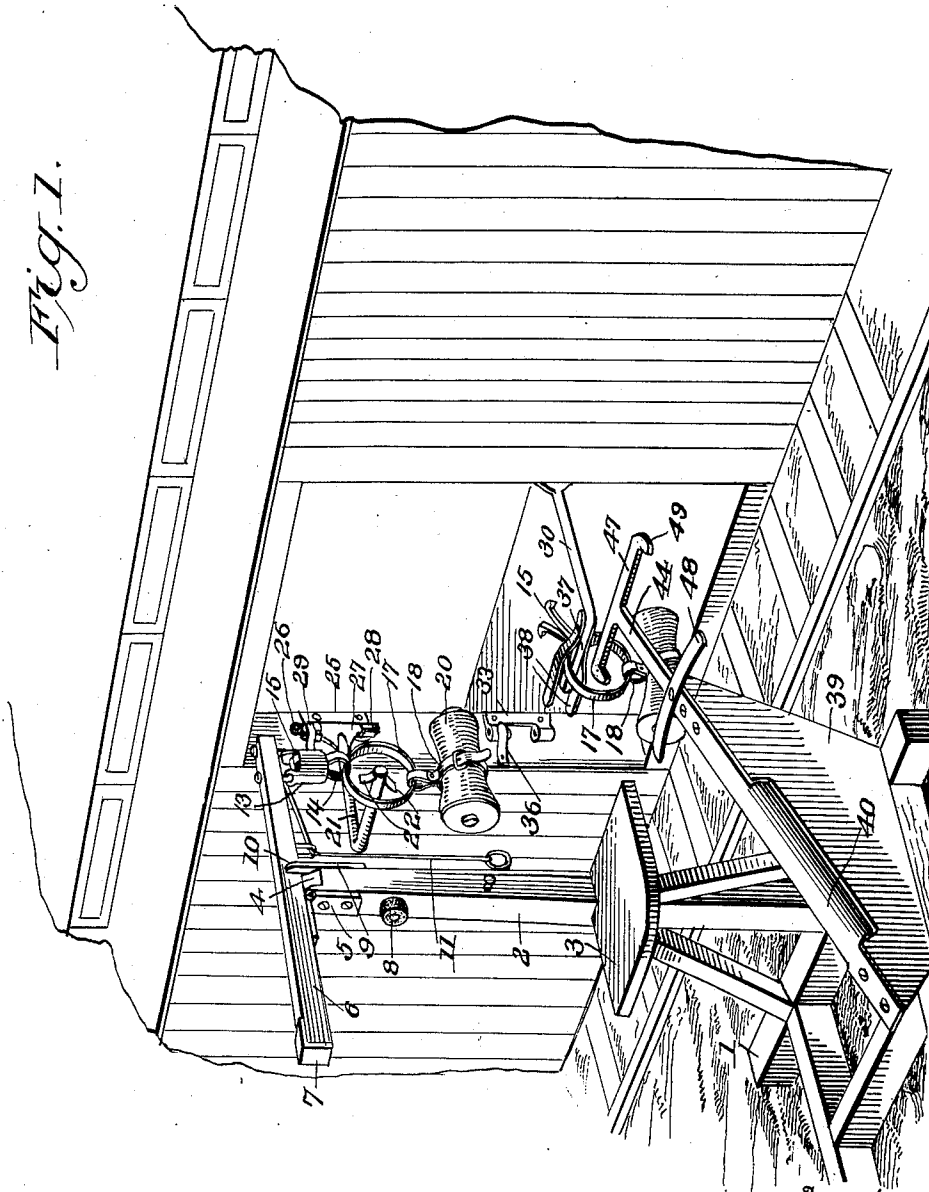
W. H. NEWTON.
MAIL BAG CATCHING AND DELIVERING MECHANISM.
APPLICATION FILED JUNE 10, 1912.

1,063,580.

Patented June 3, 1913.

2 SHEETS—SHEET 1.

Fig. 1.



Inventor
W. H. Newton

Witnesses
Thomas A. Peep

W. H. Newton

W. H. Newton

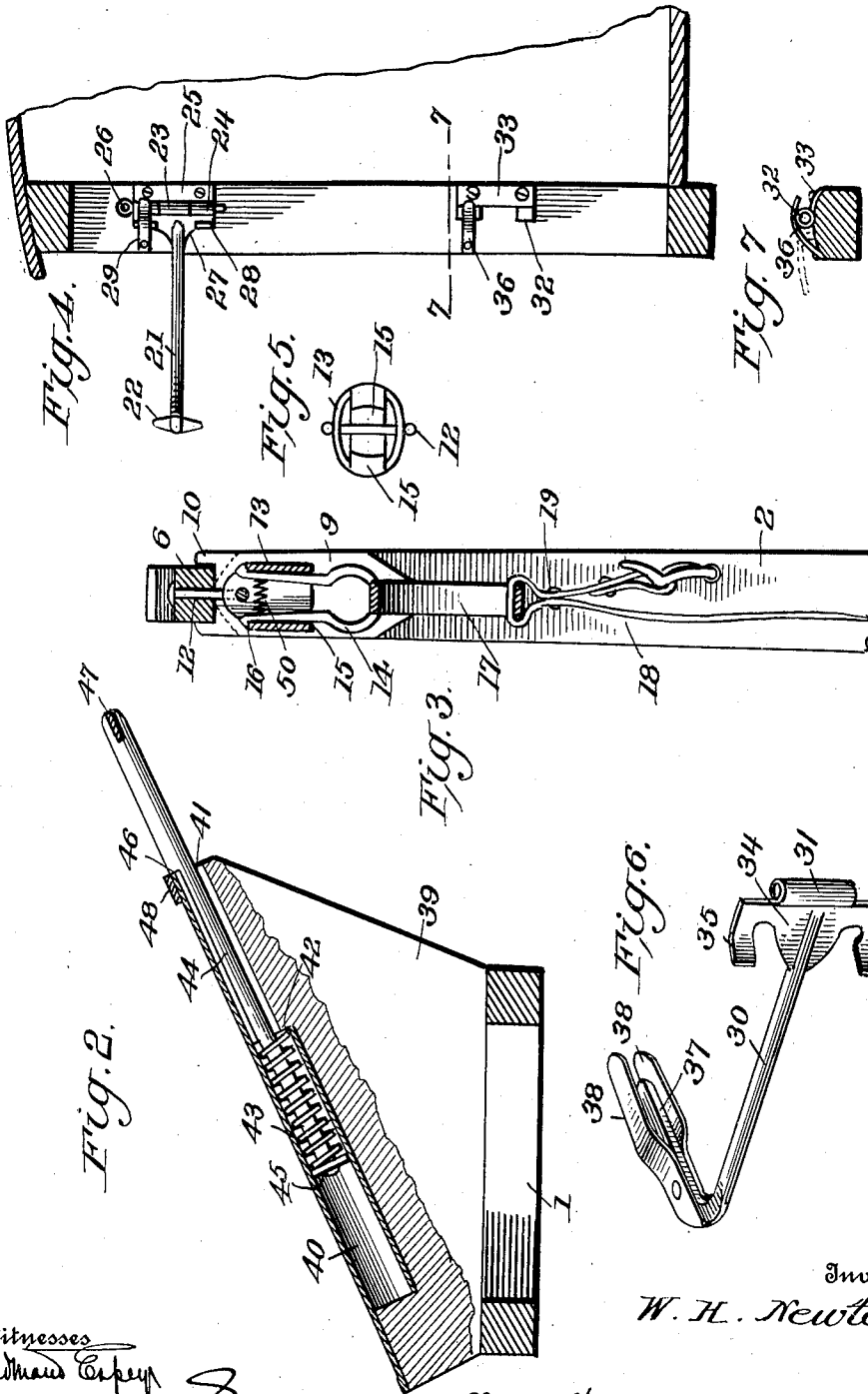
Attorneys.

W. H. NEWTON.
MAIL BAG CATCHING AND DELIVERING MECHANISM.
APPLICATION FILED JUNE 10, 1912.

1,063,580.

Patented June 3, 1913.

2 SHEETS-SHEET 2.



Witnesses
Richard E. Copey

[Signature]

34

[Signature]

Inventor

W. H. Newton

Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM H. NEWTON, OF MARION, SOUTH CAROLINA.

MAIL-BAG CATCHING AND DELIVERING MECHANISM.

1,063,580.

Specification of Letters Patent.

Patented June 3, 1913.

Application filed June 10, 1912. Serial No. 702,911.

To all whom it may concern:

Be it known that I, WILLIAM H. NEWTON, citizen of the United States, residing at Marion, in the county of Marion and State of South Carolina, have invented certain new and useful Improvements in Mail-Bag Catching and Delivering Mechanisms, of which the following is a specification.

This invention relates to mechanism for taking up and delivering mail-bags, and has for its object the provision of an inexpensive, simple, and efficiently operating apparatus by which a mail-bag may be delivered from a passing mail-car and another bag taken up by the car without any liability to injure the bag or its contents.

A further object of the invention is to provide means for accomplishing the stated results, which may be applied to either side of the car and which may be operated without exposing the mail-clerks to injury from passing objects or requiring them to lean from the car and thereby incur the danger of falling.

The invention aims, generally, to improve the construction and operation of mail-bag catching and delivering mechanism.

All these stated objects, and such other objects as will incidentally appear as the invention is more fully understood, are attained in apparatus of the type illustrated in the accompanying drawings, and the invention consists in certain novel features which will be hereinafter first fully described and then more particularly pointed out in the appended claims.

In the drawings:—Figure 1 is a perspective view of my complete apparatus showing so much of a mail-car as is necessary to disclose the operation; Fig. 2 is a detail longitudinal section through the device for receiving a mail-bag from the car; Fig. 3 is an enlarged detail section through the means for supporting a bag to be delivered; Fig. 4 is a detail section showing the door opening in the car with the take-up arm in operative position; Fig. 5 is a detail plan view of the device for supporting a mail-bag in position to be taken up by the car; Fig. 6 is a detail perspective view of the support for the bag to be delivered from the car; Fig. 7 is a detail sectional view on the line 7—7 of Fig. 4.

In carrying out my invention, I provide, adjacent the track at the station, a frame consisting of sills, 1, suitably braced and

adapted to rest upon the ground, from which rises a post or standard 2 having a small platform 3 supported thereon at an intermediate point of its height. The upper end of the post or standard is beveled toward its opposite sides, as shown at 4 in Fig. 1 and indicated by dotted lines in Fig. 3, and a hinge 5 is secured to the post at the upper extremity thereof to carry the swinging arm 6 which is adapted in its operative position to project toward the track to support a mail-bag in position to be taken up by the car. One end of the said swinging arm is weighted, as shown at 7, so that, when the said arm is relieved of the weight of the mail-bag and its contents, the weight 7 will swing the arm into a vertical position against the side of the post so that it will be out of the way and not be liable to be injured through contact with passing objects. To prevent the arm swinging against the post with such force as to damage either the post or the arm, I provide a buffer 8 upon the post, as shown in Fig. 1. When the arm is lowered to support a mail-bag, it will rest upon a bracket 9 secured to the post and having upstanding lugs or teeth 10 at its opposite edges to engage the opposite sides of the swinging arm and thereby hold the same against lateral movement. The bracket is in such a position, relative to the upper end of the standard or post, that any snow or dirt that might otherwise tend to collect upon the upper end of the post will be forced therefrom over the beveled surfaces 4 thereon, and consequently the arm will not be held above its operative position to support the mail-bag out of the path of the take-up arm. To facilitate the swinging of the arm into its lowered operative position, a cable or similar device 11 is secured to the arm and depends therefrom adjacent the post or standard where it may be easily reached by the operator standing upon the platform 3, as will be readily understood.

To that end of the arm remote from the weight 7, which may be termed the free end, I secure a hanger consisting of a clip 12 extending through and secured in the arm and carrying at its lower end a ring or collar 13 which is adapted to be engaged by a clasp 14 and is preferably of an elliptical form, so that, when the said clasp is inserted through the ring or collar, relative rotation thereof will be prevented and the bag will

be held in proper position to be taken up. The clasp consists of a split eye having resilient fingers 15 rising therefrom to be inserted through the ring or collar 13, and
 5 near their extremities these fingers are provided with shoulders 16 adapted to engage over the upper edge of the ring or collar 13 and be supported thereby, as will be readily understood on reference to Fig. 3. Rigid
 10 with the lower end of the clasp 14 is a ring 17 through which is passed a strap 18, the said strap having its folded portion riveted together, as shown at 19, whereby it will be permanently attached to the ring. This
 15 strap is to be fastened around a mail-bag, indicated at 20, and it will be understood that the clasp 14, the ring 17, and the strap 18 are always associated and are permanently connected.

20 A take-up arm 21 is supported upon the side of the door opening in the car and is pivotally mounted thereon. This arm has its outer end bent at a right angle to its main portion and is intended to pass through
 25 the ring 17 in the operation of the device, the free extremity of the arm being provided with rearwardly diverging lugs 22 which will serve to deflect the arm sufficiently to cause it to pass through the ring
 30 in the event that, under the influence of strong winds or some other cause, the ring should be slightly out of axial alinement with the end of the arm, so that the edge of the ring would be in the path of the arm.

35 The inner or securing end of this take-up arm is provided with a sleeve or eye 23 which is adapted to fit between sleeves 24 formed on a plate 25 which is secured to the side of the door opening near the top of the
 40 same, and a pintle 26 is inserted through said sleeves to hinge the take-up arm to the car. Adjacent the sleeve 23, a web 27 is formed on the arm, which extends above and below the same and is constructed with lugs
 45 28 disposed at an angle to the body of the web and adapted to bear against the side of the door opening and be yieldably held thereto by a leaf spring 29 projecting over the same, as shown in Fig. 4. The pressure
 50 exerted upon the web by the spring will be sufficient to hold the arm normally in operative position, while, at the same time, it will yield to the force applied to the arm by the operator after the bag has been taken
 55 up, so that the bag may be swung into the car.

The operation of the apparatus, thus far described, it is thought, will be readily understood. The mail-bag is secured to the
 60 ring 17 by buckling the strap 18 tightly therearound and the clasp 14 is inserted into and through the suspending ring or collar 13, so that the shoulders 16 at the ends of the fingers will engage over the edge of
 65 the collar, as clearly shown in Fig. 3. The

fingers should be of sufficient width to fit closely to the smaller arcs of the elliptical collar and be held thereby against twisting in the collar so that the ring 17 will be maintained in a plane at a right angle to the
 70 track and consequently be in position to be engaged by the end of the take-up arm as the car passes the station. The take-up arm 21 being swung outwardly to the position shown in Figs. 1 and 4, as the car passes
 75 the station the front end of said arm will pass through the ring 17, and the edge of said ring will consequently be engaged by the main portion of the said arm and the momentum of the car will exert sufficient
 80 force upon the clasp 14 to overcome the resiliency of the fingers 15 and consequently disengage said fingers from the suspending collar, so that they will be drawn out from the said collar as the car leaves the
 85 station. The weight of the mail-bag and its contents will then cause the ring 17 to rest upon the lateral end portion of the take-up arm, and the mail-clerk may then reach the said arm and swing the same into the
 90 car, as will be readily understood. Any tendency of the mail-bag to slide toward and off the free end of the take-up arm will be resisted by the ring 17 moving into engagement with the upper lug 22, so that
 95 the bag will be effectually retained upon the arm until it has been swung into the car and removed by the mail-clerk.

The device for supporting the bag to be delivered to the station is mounted upon the
 100 opposite side of the door opening at a lower level, and consists of an arm 30 provided at its inner end with a sleeve 31 adapted to engage between sleeves 32 formed on a plate 33 secured to the side of the door opening, and adjacent the said sleeve 31 is a
 105 lateral web 34 having lugs or lips 35 adapted to engage the side of the door opening and held thereto by a spring 36, as previously described in connection with the take-up arm and as will be readily understood.
 110 The outer or free end of the delivery arm 30 is bent laterally, so that, when the said arm is in its operative position, the bag support 37 will project toward the rear end of the car. Retaining spring plates 38 are
 115 secured to the upper and lower sides of the said support 37 and are adapted to engage the ring 17 of the mail-bag suspending device placed thereon.

Upon the frame 1, spaced from the stand-
 120 ard 2, is a pedestal 39 having an inclined upper edge to which is secured a keeper or tube 40, the upper end of the said tube or keeper registering with a groove 41 formed
 125 in the upper edge of the pedestal. The diameter of this groove is somewhat less than the diameter of the tubular keeper, thereby providing a shoulder 42 against which bears a spring 43 which is coiled around the slide
 130

44 adapted to play in the said groove and the said keeper and provided with a stop 45 engaging the spring 43, so that the spring tends normally to hold the slide withdrawn into the keeper. The slide is provided upon its upper side, at a suitable point of its length, with a shoulder 46 adapted to engage the front end of the keeper or other convenient form of stop provided at the end of the pedestal, so that, when the slide is projected to receive the mail-bag which is to be delivered from the car, it may be held in its projected position by engagement of the said shoulder and the said stop, being held in that position by the tension of the spring 43. Secured to the outer end of the slide 44 is a cross bar 47 which, when the slide is projected, will be in position to enter the ring 17 carried by the delivery arm 30 and thereby remove said ring from said delivery arm. As the car passes the station, the ring 17 of the mail-bag supporting device, which has been previously engaged between the upper retaining plate 38 of the support 37, will be carried over the cross bar 47 and against the slide 44, so that the continued travel of the car will cause the delivery arm to move away from the bag suspending device and leave the same resting upon the said cross bar 47. The weight of the bag and its contents will then depress the said cross bar sufficiently to release the shoulder 46 from the stop on the pedestal, and the spring 43 then instantly expands and withdraws the slide into the keeper 40. This movement of the slide carries the cross bar 47 to a co-acting bar or plate 48 secured upon the end of the pedestal, the said bars 47 and 48 consequently forming a clamp to engage the opposite surfaces of the ring 17 and thereby securely hold the same. To overcome any possible tendency of the ring 17 to rebound and thereby slip from the end of the cross bar 47, I provide at the ends of the same the guards 49 consisting of inwardly projecting lugs or fingers, as clearly shown in Fig. 1.

It will be readily seen from the foregoing description, taken in connection with the accompanying drawings, that I have provided a very simple and inexpensive apparatus which will deliver a mail-bag to a station and take up a bag at the station without coming into direct contact with the bag or its contents, so that injury thereto is avoided. The mail-clerk or other operator is not required to lean from the car in order to operate the device and is not required to stand adjacent the door opening in the way of any moving part, so that the safety of life or limb is not at all endangered by my apparatus.

In fitting a mail-car with my improved apparatus, the devices for pivotally supporting the delivery and take-up arms, that

is to say, the brackets 23 and 33 will be provided on both sides of the door opening in each side of the car, so that the bag-supporting arms may be placed at either side of the car according to the direction in which it is traveling, and all necessity for shifting or reversing the car at the end of a run is avoided.

The straps 18 will be of sufficient length and strength to secure several bags, if more than one bag is to be taken up or delivered, so that it will not be necessary to stop the car and delay the train in order to deliver or take up mail at any station. The rings 17 are continuous and undivided so that they will effectually resist the strain placed upon them by contact with the several parts of the mechanism, when in use, and the mail-bags are suspended freely from the said rings, so that there is no direct contact between the bag or its contents and any object which is apt to injure the same.

The springs 29 bear upon the webs and fingers at the inner ends of the delivery and take-up arms in such a manner that they hold the said arms in their projected position against ordinary influences and also hold the same within the car when they have been turned thereinto for the purpose of placing bags on the arms or removing the same. The construction of these arms is such that they may be used on either side of the car, and it is not necessary to provide a large number of arms, as the arms are symmetrical and the only requisite in hanging the same is to arrange them so that the lateral portion at the outer end of the arm will project in the proper direction. The mail-bag suspending device is of such a construction that it will hang freely at the end of the arm from which it is suspended and will be capable of movement without becoming disengaged, so that it will yield slightly to the impact of the member by which it is to be removed under the travel of the car, and consequently injury to the parts through forcible contact will be prevented. The fingers on the clasp, which engage the suspending collar, ordinarily, have sufficient resiliency to effectually support the device, but a coiled spring 50 may be interposed between the said fingers to hold them apart and insure the proper engagement between the fingers and the collar when the fingers become worn through long continued use.

The take-up arm and the delivery arm may be arranged at any desired distance apart according to the standard established on any particular line, the only essential being that the lower arm should be sufficiently low to prevent contact with the bag suspended from the upper arm.

What I claim is:

1. In an apparatus for the purpose set

forth, the combination of a support disposed adjacent a track, a collar hung thereon, a bag suspending device comprising an undivided ring and a clasp extending from said ring and yieldably engaging the collar, and a take-up arm adapted to be secured to a car and engage the said ring.

2. In an apparatus for the purpose set forth, the combination of a support, a collar hung thereon, a bag suspending device having a clasp adapted to be inserted in and yieldably engage said collar, and a take-up arm adapted to pass through and engage the said bag suspending device.

3. In an apparatus for the purpose set forth, the combination of a support, a non-circular collar hung thereon, a clasp adapted to fit within and yieldably engage the said collar, an undivided ring rigid with said clasp, a bag securing device attached to said ring, and a take-up arm adapted to pass through the ring and detach the clasp from the collar.

4. The combination of a support, a non-circular collar hung thereon, a clasp consisting of resilient fingers adapted to pass upwardly through said collar and engage the upper edge thereof, a ring permanently attached to said clasp, a bag securing device permanently attached to the said ring, and a take-up arm adapted to pass through the ring and engage the same so as to release the resilient fingers from the suspended collar.

5. In an apparatus for the purpose set forth, the combination of a supporting bracket, an arm detachably pivoted upon the said bracket and provided adjacent the bracket with lateral lugs, and a spring fixed adjacent the bracket and bearing upon the said lugs.

6. In an apparatus for the purpose set forth, the combination of a support, a bag suspending device yieldably engaging said support and comprising an undivided ring, and a take-up arm having a member adapted to pass through the said ring and release

the suspending device from the said support and provided at its extremity with means for retaining the said ring upon the said arm.

7. In an apparatus for the purpose set forth, the combination of a delivery arm, a bag suspending device yieldably supported on the free end of said arm, a support, a receiving member mounted on the said support and adapted to project into the path of travel of the bag suspending device, means for retaining said member in its projected position, and means whereby when said member is engaged by the bag suspending device, said device will be withdrawn from the delivery arm and the receiving member released and retracted.

8. In an apparatus for the purpose set forth, the combination of a bag delivering arm, a bag suspending device yieldably supported on the outer end of said arm, a receiving member yieldably supported in the path of the said bag suspending device, and a co-acting member arranged to clamp the bag suspending device against the receiving member.

9. In an apparatus for the purpose set forth, the combination of a delivery arm, a bag suspending device yieldably mounted on the outer end of said arm, a support, a tubular keeper on said support, a slide mounted on said support and extending into said keeper and adapted to engage the end of the support, a receiving member at the outer end of said slide adapted to engage the bag suspending device, a spring within the keeper acting on the said slide to hold the same normally within the keeper, and a clamping member on the support adapted to co-act with the receiving member.

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

WILLIAM H. NEWTON. [L. S.]

Witnesses:

B. H. ALLEN,

GEO. M. COFFIN.