R. L. GARRISON.

MAIL BAG CATCHER AND DELIVERER.

APPLICATION FILED APR. 26, 1913.

1,067,650.

Patented July 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

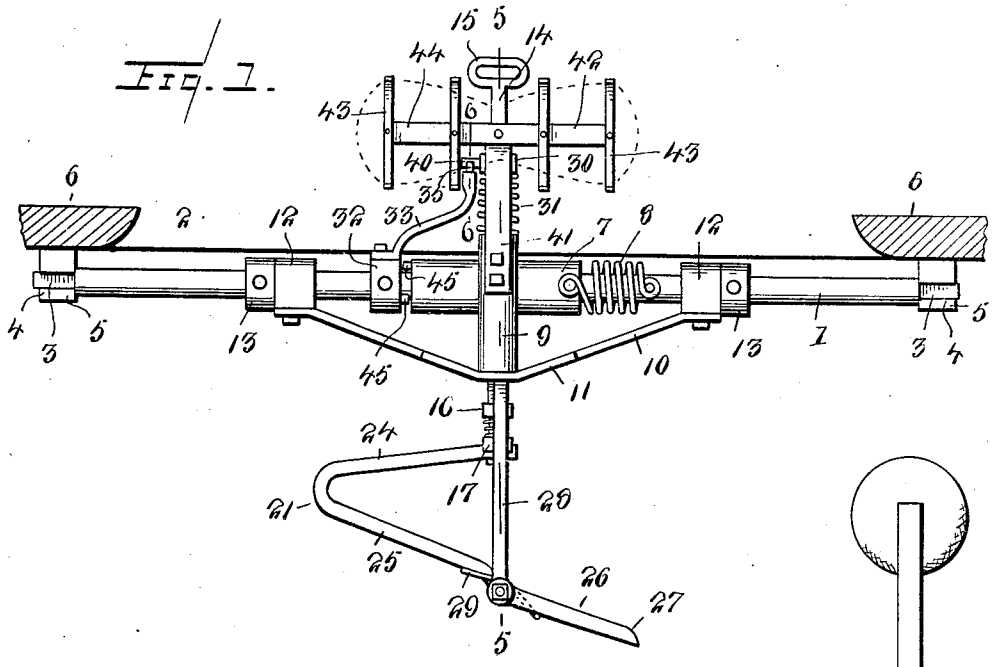


Fig. 2.

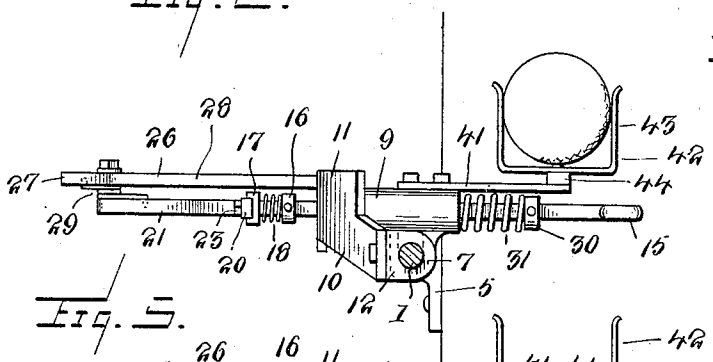


Fig. 3.

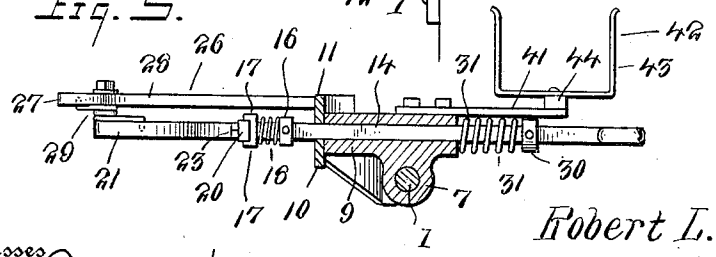
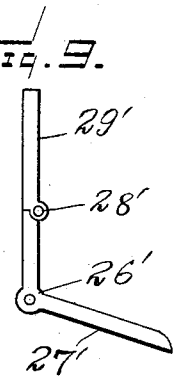


Fig. 4.

Fig. 5.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

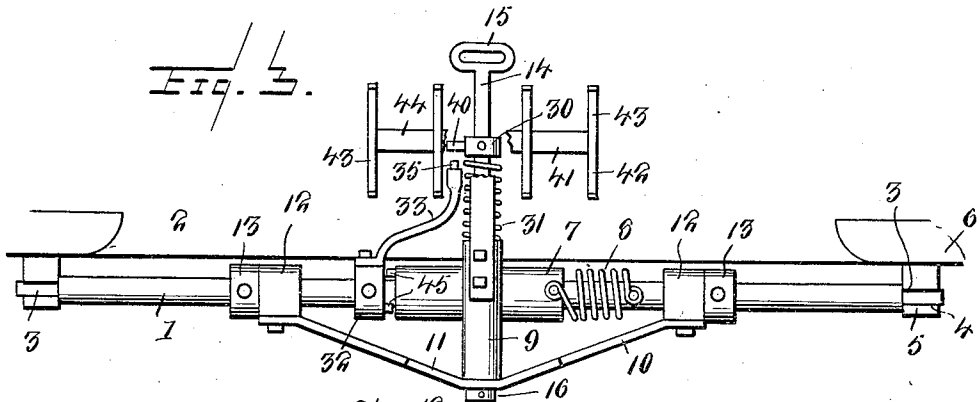


Fig. 4.

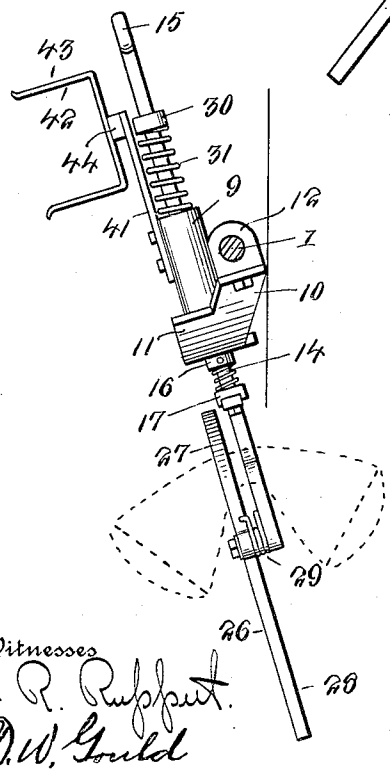


Fig. 6.

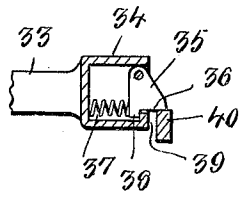


Fig. 7.

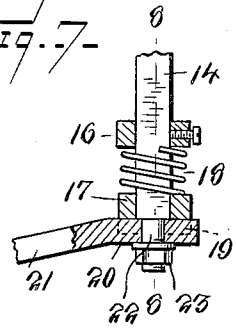
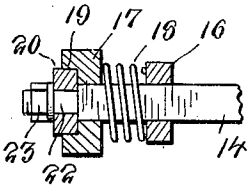


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT L. GARRISON, OF SULLIVAN, VIRGINIA.

MAIL-BAG CATCHER AND DELIVERER.

1,067,650. Specification of Letters Patent. Patented July 15, 1913.

Application filed April 26, 1913. Serial No. 763,836.

To all whom it may concern:

Be it known that I, ROBERT L. GARRISON, a citizen of the United States, residing at Sullivan, in the county of Green and State of Virginia, have invented new and useful Improvements in Mail-Bag Catchers and Deliverers, of which the following is a specification.

The invention relates to a mail bag catcher and deliverer being more particularly directed to a construction in which the catcher element is similar to the usual pick-up hook, and the delivery element, normally set for operation, is released for the delivery of the mail bag through the coöperation of the catcher element and bag being received.

The main object of the present invention is the combined mail bag catcher and deliverer constructed generally for service and operation in a manner similar to the mail bag pick-up hook, said hook structure including a delivery element designed for spring operation in the delivery operation, and normally held against said spring operation until the crane supported mail bag has been received in the hook of the catcher element, the coöperation of the bag and catcher element actuating a trip to release the delivery element to the influence of its operating spring.

The invention in the preferred form of details will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a plan showing the improved device in position to receive and deliver mail sacks. Fig. 2 is a side elevation of the same. Fig. 3 is a view similar to Fig. 1, with the parts in the positions assumed immediately subsequent to the pick-up of a mail sack. Fig. 4 is a view in side elevation, showing the parts in the positions assumed immediately subsequent to the delivery of a mail sack. Fig. 5 is a longitudinal section on line 5—5 of Fig. 1. Fig. 6 is an enlarged section on the line 6—6 of Fig. 1. Fig. 7 is a sectional view partly in elevation illustrating the means to permit reversal of the catcher element. Fig. 8 is a section on line 8—8 of Fig. 7. Fig. 9 is a detail plan, showing a modified form of trip.

In the accompanying drawings, wherein is shown the preferred details of construction, my improved mail bag catcher and deliverer is designed for use in connection with and supported on the usual bar 1, designed to be arranged transversely of the door opening 2 of the mail car, except that in this instance the bar is formed with squared terminals 3 to fit in similarly formed openings 4 of brackets 5, secured to the casing 6, whereby the bar is held against independent turning when in position, though adapted for ready removal when not desired for use.

Rotatably supported upon the bar 1 is what I term a bearing sleeve 7, said sleeve being connected with the bar through the medium of a coil spring 8, encircling the bar and secured at its respective ends to the sleeve and to the bar. The spring 8 is designed to effect the delivery operation, and will be hereinafter referred to as the delivery spring, it being understood that such spring is of sufficient tension to effect the desired operation. Secured upon and arranged transversely of the sleeve 7 is a tubular guiding member 9, the interior bore of which is preferably square in cross section. The forward terminal of the guiding member is connected to a brace plate 10, which plate extends laterally and rearwardly with respect to said member, providing the inclined guide webs 11, and is terminally secured to collars 12 rotatably mounted upon the rod 1, beyond the respective ends of the bearing sleeve, said collars being held against longitudinal movement of the rod through the medium of additional collars 13 secured upon the rod.

Slidably mounted in the guiding member 9 is what I term a hook bar 14, the inner end of which is formed to provide the usual hand-hold loop 15. The outer end of the bar, that is the end in advance of the forward end of the guiding member is provided with a fixed limiting collar 16 designed to coöperate with the end of the guiding member and limit the inward movement of the bar. A locking collar 17 is also slidably mounted on the bar, and held at its limit of outward movement by a spring 18 encircling the bar and bearing between said collars 16 and 17. The locking collar 17 is formed with a transverse recess 19, to receive the inner end 20 of the catcher element 21, said end 20 of the catcher element passing over and coöperating with a reduced rounded portion 22 of the bar 14, and being held against separation by a nut 23 coöperating with the threaded terminal of the bar.

From the above description it will be ob-

vious that as the locking collar 17 coöperates with the squared portion of the bar 14, and the terminal of the catcher element is seated in a recess in said locking collar, said catcher element will be held in fixed relation to the bar, though by moving said collar 17 longitudinally of the bar against the tension of the spring 18, the catcher element may be readily reversed.

The catcher element is of the usual hook form including the divergent arms 24 and 25, the terminal of the former coöperating with the bar as described. To the terminal of the arm 25 of the catcher element is pivotally connected what I term a trip 26 the latter comprising angularly related arms 27 and 28. The arm 28 constitutes the trip arm, while the arm 27 constitutes the bag holding arm. A spring 29 is arranged at the pivotal connection of the trip with the arm 25, and is tensioned to normally move the bag holding arm into a position across the arms of the catcher element, or in that position shown in Fig. 3 of the drawings.

Secured upon the bar 14 in advance of the loop 15 is a collar 30 between which and the proximate end of the guiding element 9 is arranged a coil spring 31, said spring being tensioned to normally force the supporting bar 14 in the inward direction. Fixed upon the rod 1 immediately adjacent one end of the bearing sleeve 7 is a collar 32 from which extends an inwardly projecting locking arm 33. This arm projects toward the supporting bar 14 and then, for a short distance into parallelism with said bar, being provided at its inner end with a hollow terminal 34 in which is pivotally mounted a dog 35 having a latching nose 36 normally projected beyond the end of the locking arm by a spring 37 arranged in the hollow terminal and bearing against the dog. The dog is preferably provided with a projection 38 designed to coöperate with the projection 39 on the hollow terminal to limit the movement of the dog under the influence of the spring.

The trip arm 28 of the trip 26 is of such length that when the trip has been turned to cause the free terminal of the arm 28 to bear against the forward end of the guiding member 9, the supporting bar 14 will be forced forwardly, compressing the spring 31, and at the same time carrying an arm 40 projecting from the collar 30 on the bar 14 into a position beneath the nose 36 of the dog 35.

Secured upon the guiding member 9 is a spring strip 41 carrying at its rear end a cage 42 for the reception of the mail bags to be delivered, the cage being preferably U-shaped spring strips 43 secured to a bar 44 arranged transversely at the inner end of the spring strip 41.

In Fig. 9 I have shown a slightly modified form of trip wherein provision is made against the possibility of the spring 31 preventing movement of the arm of the trip under the impact of the mail sack. In such modified form I have shown trip, designated by 26′ to be similar to the trip of the preferred form, that is including the arms 27′ and 28′, the sole difference being that in this form the arm 28′ is made up of hingedly connected sections 29′ and 30′, breaking the rearward direction, that is under the impact of the mail sack, whereby to insure the release operation of the parts.

The device is set for operation by turning the trip member so that the arm 28 bears against the end of the guiding member 9, the movement of the arm to this position being facilitated by riding in contact with the inclined guide webs 11 of the brace 10. This tensions the spring 31, and positions the trip arm 28 across the hook or catcher element, as shown in Fig. 1. The device as a whole is then turned into a horizontal position, tensioning the spring 8, and causing the arm 40 of the collar 30 to ride beneath the dog 35, and lock the parts against movement under the influence of the spring 8. The mail sack to be delivered is then placed in a cage 42. In the pick-up operation, the mail sack from the crane, in riding into the hook or catcher element displaces the trip arm of the trip element, and releases the spring 31 for operation. The displacement of the trip arm, frees the trip to the influence of the spring 29 so that the bag holding arm 27 is swung across the catcher element in rear of the bag and holds the latter in the hook. The release of the spring 31 induces a longitudinal movement of the supporting bar, with the effect to draw the bag from the crane in a direction toward the car, and thus more certainly insure the proper pick-up. The rearward movement of the supporting bar moves the arm 40 of the collar 30 from beneath the dog 35, freeing the entire structure to the influence of the spring 8. This spring immediately acts to swing the device on the rod 1, acting to move the bag arranged in the cage 42 above the rod and the bag in the catcher element below the rod. The movement continues until stops 45 on the bearing sleeve and collar 32 coöperate, following which the inertia of the parts forces the delivery of the mail sack from the cage 42, a snap or jerk being imparted to the final movement through the spring strip 41, as will be obvious.

The device as a whole provides for the delivery and pick-up of mail sacks, with the operation controlled in a manner similar to the use of the ordinary pick-up hook, the delivery being automatically accomplished practically simultaneously with the pick-up. The sacks when received in the catcher ele-

ment are held against separation therefrom by the trip element, though they may be readily removed at the pleasure of the mail clerk in an obvious manner.

The improved device is of little complication, may be readily removed as a whole from the door opening, and as quickly applied in operative position as is the ordinary pick-up hook in present use.

Of course it is to be understood that the various parts are to be constructed in such sizes, of such materials, and of such strengths, as will best adapt them for the use intended.

What is claimed is:—

1. A mail bag catcher and deliverer including a rotative element, means for operating said element, a mail bag catcher carried by the element, a mail bag deliverer carried by the element and means controlled by the bag received in the catcher for governing the element operating means.

2. A mail bag catcher and deliverer including a rotative element, means for operating said element, a mail bag catcher carried by the element, a mail bag deliverer carried by the element, and a trip operated by the bag received in the catcher and governing the element operating means.

3. A mail bag catcher and deliverer including a rotative element, means for operating said element, a mail bag catcher carried by the element, a mail bag deliverer carried by the element, and a trip operated by the bag received in the catcher and governing the element operating means, said trip including the bag holding means coöperating with the catcher.

4. A mail bag catcher and deliverer including a sleeve rotatably supported, means for operating the sleeve, a supporting rod operating transverse the sleeve, locking means coöperating with the rod to hold the sleeve against the operating means, a catcher element carried by the rod, a delivery element carried by the rod, and means carried by the catcher element to release the locking means in the pick-up of the bag by said element.

5. A mail bag catcher and deliverer including a rotatably mounted sleeve, a spring for operating the sleeve in one direction, a supporting rod movable transversely of the sleeve, a spring for operating said rod in one direction, locking means carried by the rod to hold the sleeve against the influence of its operating spring, a catcher element carried by the rod, a delivery element carried by the rod, and means coöperating with the catcher element to release the locking means in the coöperation of a bag with said catcher element.

6. A mail bag catcher and deliverer including a rotatably mounted sleeve, a spring for operating the sleeve in one direction, a supporting rod movable transversely of the sleeve, a spring for operating said rod in one direction, locking means carried by the rod to hold the sleeve against the influence of its operating spring, a catcher element carried by the rod, a delivery element carried by the rod, and a trip carried by the catcher element to release the locking means in the coöperation of a bag with said catcher element.

7. A mail bag catcher and deliverer including a rotative bearing sleeve, an operating spring therefor, a guiding sleeve secured transversely of the bearing sleeve, a supporting bar movably mounted in the guiding sleeve, locking means carried by the bar to hold the bearing sleeve against the influence of its operating spring, a catcher element carried by the bar, a delivery element carried by the guiding sleeve, and a trip carried by the catcher element and cooperating with the guiding sleeve to maintain said locking means in locking relation.

8. A mail bag catcher and deliverer including a rotative bearing sleeve, an operating spring therefor, a guiding sleeve secured transversely of the bearing sleeve, a supporting bar movably mounted in the guiding sleeve, locking means carried by the bar to hold the bearing sleeve against the influence of its operating spring, a catcher element carried by the bar, a delivery element carried by the guiding sleeve, and a trip carried by the catcher element and cooperating with the guiding sleeve to maintain said locking means in locking relation, said trip being adapted to be operated by the entrance of a bag in the catcher element, and including an arm to close said catcher element in rear of the bag.

9. A mail bag catcher and deliverer including a rotative bearing sleeve, an operating spring therefor, a guiding sleeve secured transversely of the bearing sleeve, a supporting bar movably mounted in the guiding sleeve, locking means carried by the bar to hold the bearing sleeve against the influence of its operating spring, a catcher element connected to the bar for reversal, a delivery element carried by the guiding sleeve, and a trip carried by the catcher element and coöperating with the guiding sleeve to maintain said locking means in locking relation.

10. A mail bag catcher and deliverer including a rotative bearing sleeve, an operating spring therefor, a guiding sleeve secured transversely of the bearing sleeve, a supporting bar movably mounted in the guiding sleeve, locking means carried by the bar to hold the bearing sleeve against the influence of its operating spring, a catcher element carried by the bar, a spring strip secured to the guiding sleeve, a delivery element secured to said strip and a trip carried

by the catcher element and coöperating with the guiding sleeve to maintain said locking means in locking relation.

11. A mail bag catcher and deliverer including a rod removably secured transverse the car door opening, a bearing sleeve rotatably mounted on the rod, an operating spring connecting said sleeve and rod, a guiding element secured transverse the sleeve, a supporting bar longitudinally movable in said guiding element, a locking arm fixed on the rod, a dog carried by said arm, a locking member secured to the bar and cooperating with the dog to hold the spring under tension, a catcher element carried by the forward end of the bar, a delivery element supported by the guiding element, a spring coöperating with the supporting bar to move the same to release the locking arm from the dog, and a trip pivotally connected to the catcher element, said trip including an arm to coöperate with the guiding element to hold the supporting bar spring under tension and a bag holding arm to close the catcher element subsequent to the reception of a bag therein, the movement of the bag into the catcher element disconnecting the arm from the guiding element.

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

ROBERT L. GARRISON.

Witnesses:

E. HUME TALBERT,

BENNETT S. JONES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."