

R. W. LOMAX.
 APPARATUS FOR DELIVERING MAIL FROM MOVING CARS.
 APPLICATION FILED OCT. 13, 1910.

979,179.

Patented Dec. 20, 1910.

2 SHEETS—SHEET 1.

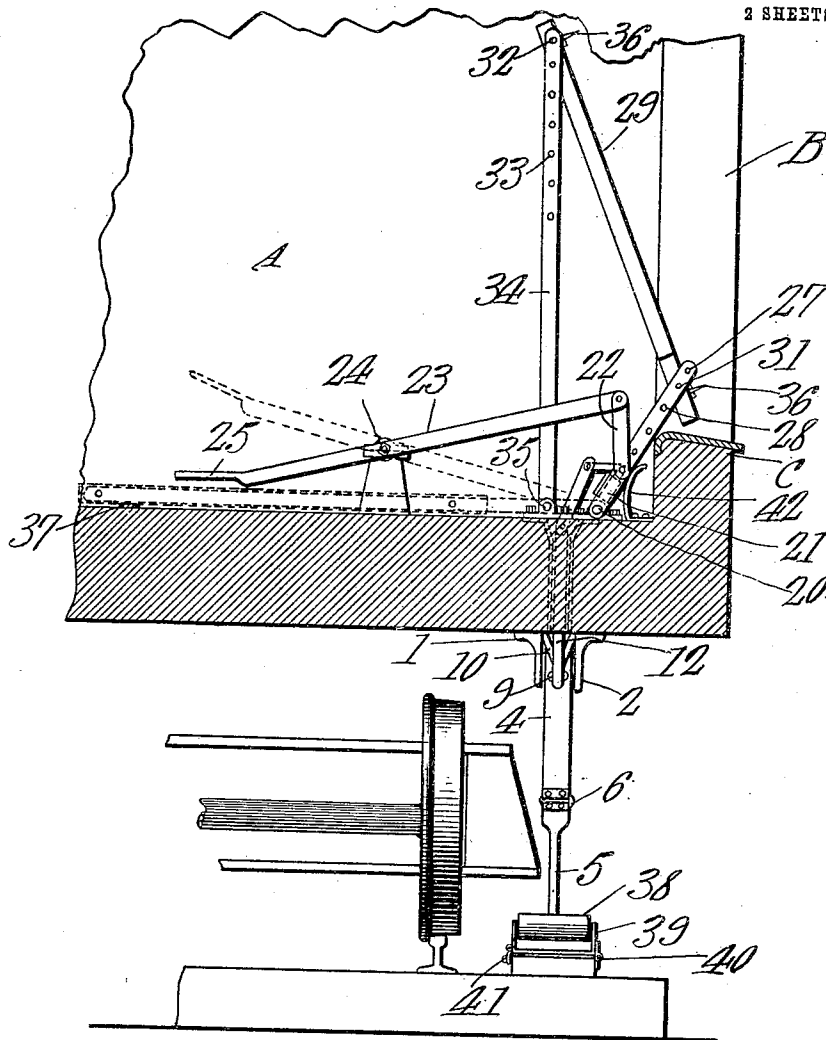


Fig. 1.

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2 SHEETS-SHEET 2.

Fig. 2.

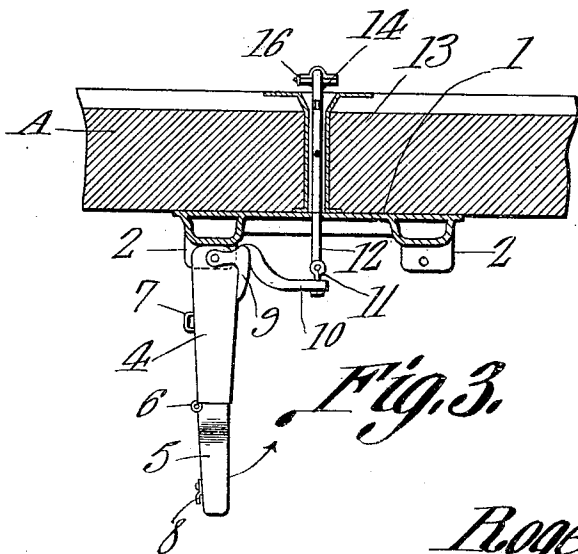
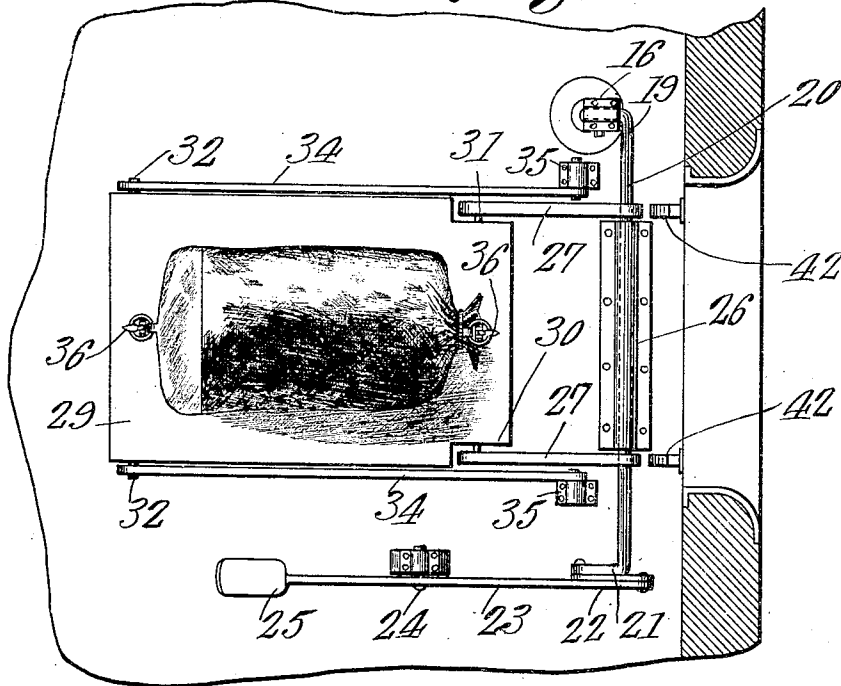


Fig. 3.

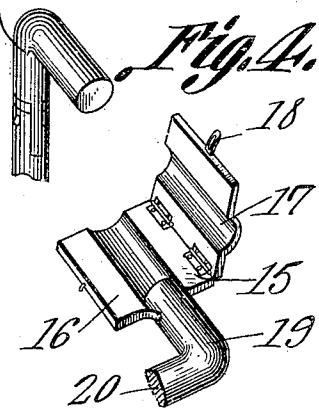


Fig. 4.

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UNITED STATES PATENT OFFICE.

ROGER W. LOMAX, OF LYNCHBURG, VIRGINIA.

APPARATUS FOR DELIVERING MAIL FROM MOVING CARS.

979,179.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed October 13, 1910. Serial No. 586,951.

To all whom it may concern:

Be it known that I, ROGER W. LOMAX, a citizen of the United States, residing at Lynchburg, in the county of Campbell and State of Virginia, have invented a new and useful Apparatus for Delivering Mail from Moving Cars, of which the following is a specification.

This invention relates to apparatus for delivering mail bags or pouches from moving cars, one of its objects being to provide mechanism of this character which can be operated either automatically or manually and which serves to elevate the pouch or bag above the sill of the door opening and to then throw said pouch or bag through the opening and beyond the car structure.

A further object is to provide mechanism of this character which can be adjusted to throw the bag or pouch in any direction desired.

A still further object is to provide means whereby the mechanism may be set so as to be unaffected by coming into contact with the tripping element utilized in connection therewith.

With these and other objects in view the invention consists in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a view partly in section and partly in elevation of the complete mechanism in position upon a car structure, said mechanism being shown shifted to throw a pouch or bag from the car, the normal position of the parts being indicated by dotted lines. Fig. 2 is a plan view of the parts shown in Fig. 1. Fig. 3 is a side elevation of the tripping arm and adjacent parts. Fig. 4 is a perspective view of one end portion of the rock shaft and the coupling thereon, the angular link being shown adjacent thereto.

Referring to the figures by characters of reference A designates a car structure having a door opening B the sill C of which is extended above the floor of the car structure as ordinarily. The mechanism constituting

the present invention includes a supporting plate 1 secured to the bottom of the car floor and provided with oppositely disposed ears 2 arranged in pairs, there being a tripping arm 3 pivotally mounted between the ears of either pair. This arm is made up of upper and lower sections 4 and 5 respectively hingedly connected, as indicated at 6, there being cooperating means, such as an eye 7 upon the section 4 and a hook 8 upon the section 5, for securing the two sections when folded together. A saddle 9 is pivotally connected to the upper end of the section 4 and permits the tripping arm 3 to swing in one direction independently thereof but, when said arm is swung in the opposite direction, the saddle is necessarily moved therewith. An arm 10 extends from the saddle and has an eye 11 swiveled therein, this eye being pivotally connected to a rod 12. Said rod is slidably mounted within an opening 13 formed in the floor of the car structure and is pivoted at its upper end to an angular link 14 having one end portion hinged within a grooved head 15. This head has side flanges 16 one of which is connected to one side of a hinged cap 17 which is also grooved. This cap and the head 15 have fastening means such as is indicated at 18 for securing the cap upon the head.

Head 15 is formed on or secured to an arm 19 located at one end of a rock shaft 20, this shaft being provided, at its other end, with an arm 21 to which a link 22 is attached. This link is connected to an operating lever 23 fulcrumed, as at 24 upon the floor of the car structure and having a foot plate 25 at its free end whereby the same can be readily actuated manually.

Shaft 20 is journaled within a bearing plate 26 secured upon the floor of the car and extending from this shaft adjacent the ends of the plate, are arms 27 which are parallel and provided with numerous openings 28. The bag supporting element 29 of the throwing mechanism has one end portion narrowed, as shown at 30 and provided with trunnions 31 adapted to project into any one of the openings 28 in the two arms 27. Additional trunnions 32 project laterally from the supporting member 29 adjacent that end thereof farthest removed from the trunnions 31, and these trunnions 32 are adapted to project into any one of a series of openings 33 formed in each of two parallel arms 34 which are pivotally connected to the floor of

the car structure as indicated at 35, these points of connection being arranged at points between the ends of the arms 27, as clearly shown in Fig. 2. Holding pins 36 may be extended from the upper face of the member 29 adjacent the ends thereof and are provided for the purpose of engaging rings or loops formed on the ends of a mail pouch or bag, as indicated in Fig. 2. These pins 36 are preferably hingedly connected to the member 29 so as to swing downwardly onto said member and thus hold the rings or straps of the pouch upon the member. Cushions 37 of rubber or the like may be arranged upon the car floor at points where they will be contacted by the member 29 when it falls back to its normal position as indicated by dotted lines in Fig. 1.

The arm 3 normally hangs downwardly so as to lie in the path of a tripping roller 38 located close to the track at the point where the mail is to be delivered from the car. This roller is preferably mounted within a frame 39 hingedly connected to a supporting block 40, there being suitable fastening means such as indicated generally at 41 for holding the frame in normal position upon the block. By unfastening the frame, the same can be swung upon its hinge 40 so as to move out of the path of the arm section 5.

A cushioning spring 42 is secured upon the car structure and in the path of one of the arms 27. If preferred two of these springs may be utilized as indicated in Fig. 2. The springs are so positioned that, as soon as the arms 27 reach vertical positions during their swinging movement toward the door opening, they will come into contact with the springs and place them under stress, said springs therefore serving to automatically return the arms 27 to their initial positions immediately subsequent to the delivery of a mail bag or pouch.

The operation of the mechanism is as follows: The bag or pouch to be delivered is placed upon the throwing member 29 and with its rings or straps in engagement with the holding pins 36 which are swung downwardly onto the member 29 as shown in Fig. 2. If the mechanism is to be operated automatically, the roller 38 at the station where the mail is to be delivered, is swung into the position shown in Fig. 1 and locked. When the car passes this point, the arm section 5, which is of course hanging freely from the section 4, will strike the roller and thus cause the actuating arm 3 to swing in the direction indicated by the arrow in Fig. 3. Saddle 9 will therefore cause arm 10 to move with the arm 3 and rod 12 will be pushed upwardly. Link 14 will also be pushed upwardly and as it is secured within the head 15 by the cap 17, it will be apparent that rock shaft 20 will be partly rotated and will cause the arms 27 to swing upwardly and

outwardly toward the door opening. Member 29 will therefore pull upon the arms 34 and both sets of arms 27 and 34 will therefore be swung upwardly and as the arms 34 are longer than the arms 27 it will be apparent that the member 29 will not only be elevated above the sill C of the car door but will also be inclined, as shown in Fig. 1. As the upward movement of the member 29 is very rapid, it will be apparent that the bag or pouch carried thereby will be projected through the door opening, the direction of movement of the pouch or bag upon leaving the member 29 being dependent upon the angle of said member to the arms 27 and 34. Obviously this member 29 can be adjusted to different angles by placing its trunnions within different openings 28 and 33. As soon as the bag or pouch has been delivered from the car, the spring or springs 42, which have been placed under stress in the manner hereinbefore described, will operate to throw the arms 27 back past the center of gravity so that the parts of the mechanism will return by gravity to their initial positions.

It will be understood of course that when the bag is thrown from the member 29, the pins 36 will swing outwardly so as to release the rings or straps thereon.

Should it be desired to set the mechanism so that it will not be operated should the arm 3 engage the tripping roller 38, the cap 17 may be released from the head 15 so that, during the upward movement of the rod 12 caused by the swinging of the arm 3, the angular link 14 will be free to lift out of the head 15. Should it be desired to operate the mechanism manually, it would merely be necessary to depress the foot plate 25 whereupon lever 23 will pull on link 22 and arm 21 and cause shaft 20 to rotate.

When it is desired to reverse the parts so as to force them to operate when the car is moving in the opposite direction, arm 3 is disengaged from the set of ears 2 supporting it and is placed in engagement with the other set of ears 2. This does not necessitate detaching arm 10 from rod 12 because the eye 11 is swiveled.

What is claimed is:—

1. Mechanism of the class described including a pouch-supporting member, supporting arms pivotally connected to the end portions of said member, said member being adjustable relative to the arms, and trip operated means for simultaneously swinging the arms to elevate and tilt said member.

2. Apparatus of the class described including a supporting member, arms adjustably connected thereto, and foldable trip operated means for simultaneously actuating the arms to elevate and tilt said member.

3. Mechanism of the class described in-

cluding a supporting member, pivoted arms adjustably connected to opposite end portions of said member, trip actuated means for simultaneously swinging the arms to elevate and tilt the member, and means for disengaging said arms from the trip actuated means.

4. Apparatus of the class described including a supporting member, pivoted arms adjustably connected thereto, trip operated means for simultaneously swinging the arms to elevate and tilt the supporting member, and coupling means for detachably connecting the trip operated means to the arms.

5. Apparatus of the class described including supporting means, pivoted arms adjustably connected thereto, a rock shaft connected to and movable with one of the arms, and trip operated means for actuating said shaft to elevate and tilt the supporting means.

6. Apparatus of the class described including a supporting member, a rock shaft, arms connecting said shaft with one end of the member, pivoted arms connected to the other end of said member, and trip operated means for actuating the shaft to raise and tilt the supporting member.

7. Apparatus of the class described including a supporting member, a rock shaft, arms movable with the shaft and adjustably connected to one end portion of the supporting member, pivoted arms adjustably connected to the other end portion of said member, trip operated mechanism, and means for detachably connecting said mechanism with the shaft.

8. Apparatus of the class described including a supporting member, pivoted arms adjustably connected to the end portions of said member, a rock shaft connected to and movable with one of the arms, a foldable trip actuated arm, and means operated by said arm for rocking the shaft to elevate

and tilt the supporting member, said means including a coupling detachably engaging the shaft.

9. Mechanism of the class described including a supporting member, an actuating device, means operated by said device for simultaneously elevating the member and swinging it to a predetermined angle relative to a vertical plane, cushioning means for limiting the movement of said member in one direction and for imparting an initial impulse to said member to return it to its normal position subsequent to said swinging movement.

10. Mechanism of the class described including a supporting member, an actuating arm mounted for swinging movement, an arm extending therefrom, said actuating arm being movable in one direction independently of said extended arm, means operated by said extended arm for simultaneously elevating the supporting member and swinging it to a desired inclination, and a tripping device in the path of the actuating arm.

11. Apparatus of the class described including a supporting member, an actuating arm, means actuated by the movement of said arm in one direction for simultaneously elevating the supporting member and swinging it to a desired inclination, and a tripping device in the path of said arm, said device including a hinged frame, a roller carried thereby and normally in the path of the arm, and means for locking the frame and roller in normal position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROGER W. LOMAX.

Witnesses:

HERBERT D. LAWSON,
EDWARD S. LOMAX.