

B. EVANS.
MAIL CATCHER AND DELIVERER.
APPLICATION FILED SEPT. 26, 1911.

1,016,819.

Patented Feb. 6, 1912.

3 SHEETS—SHEET 1.

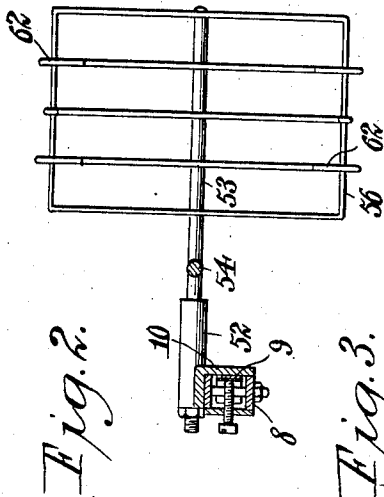


Fig. 3.

Fig. 4.

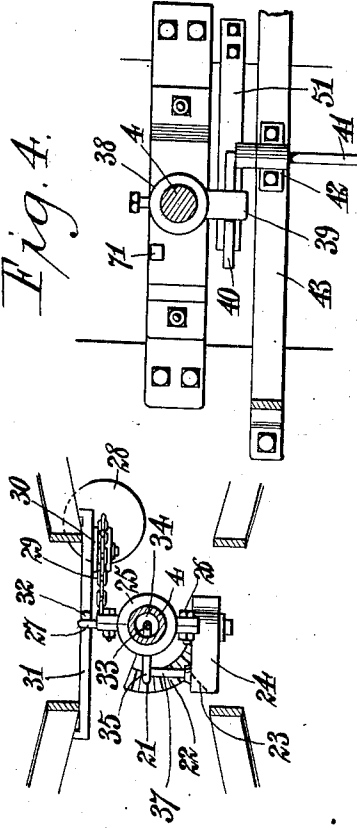
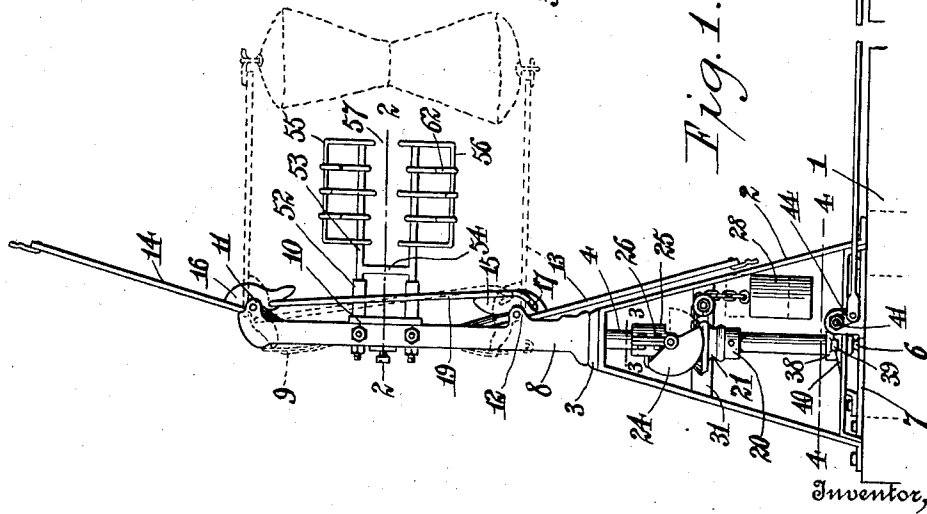


Fig. 1.



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3 SHEETS—SHEET 2.



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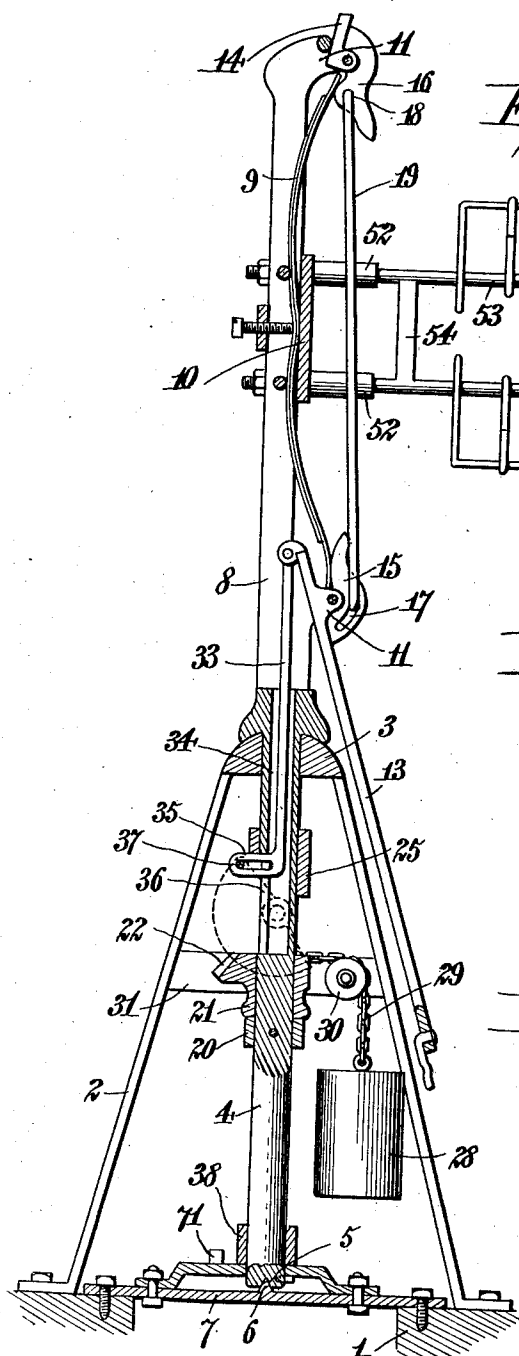
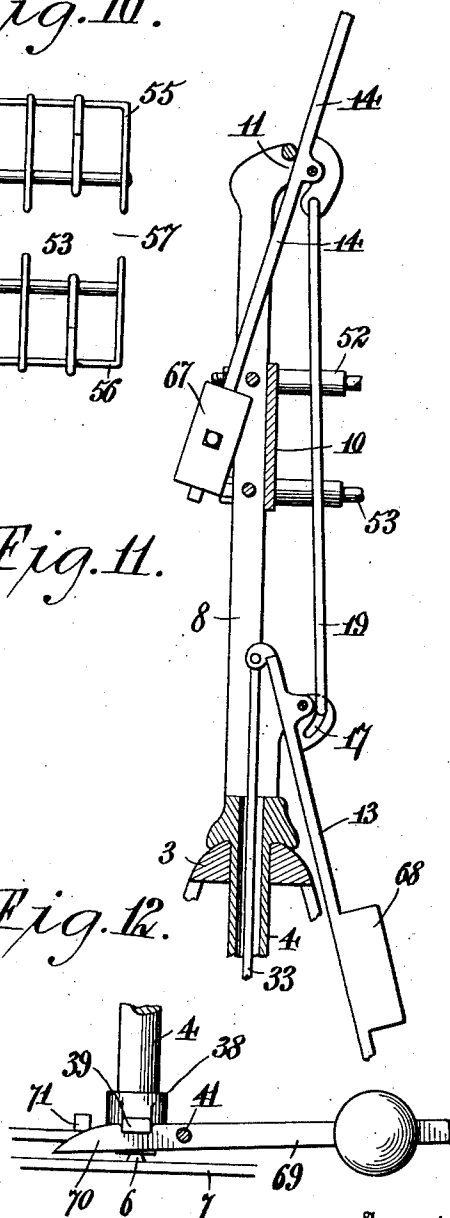


Fig. 10.

Fig. 11.

Fig. 12.



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UNITED STATES PATENT OFFICE.

BENJAMIN EVANS, OF BLUEFIELD, WEST VIRGINIA.

MAIL CATCHER AND DELIVERER.

1,016,819.

Specification of Letters Patent.

Patented Feb. 6, 1912.

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To all whom it may concern:

Be it known that I, BENJAMIN EVANS, a citizen of the United States, residing at Bluefield, in the county of Mercer and State of West Virginia, have invented new and useful Improvements in Mail Catchers and Deliverers, of which the following is a specification.

This invention relates to mail bag catchers and deliverers and one of the principal objects of the invention is to provide a simple and efficient device of this character whereby the mail may be delivered from a moving train to a roadside catcher and the mail from the roadside supporting frame may be caught by the train.

A further object of this invention is to provide a combined deliverer and catcher wherein the supporting arms will be automatically thrown to operative position on the approach of a train and will be automatically thrown to inoperative position after the mail sack has been removed therefrom.

Further objects of this invention will appear as the following specific description is read in connection with the accompanying drawings, which forms a part of this application, and in which:—

Figure 1 is a side elevation with the housing removed to more clearly show the parts and with the bag holding arms shown in inoperative position in full lines and in operative position in dotted lines. Fig. 2 is a sectional view on the line 2—2 of Fig. 1. Fig. 3 is a similar section on the line 3—3 of Fig. 1. Fig. 4 is a similar section on the line 4—4 of Fig. 1. Fig. 5 is a top plan view. Fig. 6 is a vertical section through the catcher. Fig. 7 is a perspective view of the upper bag supporting frame. Fig. 8 is a similar view of the lower bag supporting frame. Fig. 9 is a perspective view of the car catcher. Fig. 10 is a side elevation with parts in section and parts broken away. Fig. 11 is a similar view showing the modification. Fig. 12 is a detail elevation showing the modified form of catch.

Referring more particularly to the drawing, 1 represents a suitable base or support upon which the housing frame 2 is carried. This frame consists of four uprights connected together at the top by a bearing boss 3 which is centrally apertured to permit the passage of an operating shaft 4. This shaft is provided with a conical recess 5 in its

lower end which is engaged by a cone point bearing 6 carried by a horizontal brace 7 which extends across and connects with opposite parts of the base or support 1. The shaft 4 projects above the bearing in the form of a standard 8 whose sides are separated throughout the length to receive a leaf spring 9 which is mounted upon the adjustable slide 10 intermediate its length. The standard is provided with laterally projecting ears 11 and 12 adjacent its lower and upper ends and pivoted between these ears are bag supporting arms 13 and 14, each having spring operating fingers or members 15 and 16 which engage the ends of the spring. The finger 15 is provided with a slot 17, while the finger 16 is provided with an aperture 18, and connecting the fingers is a link 19 which is provided with eyes passing through the slot and aperture. The purpose of the slot 17 will be more particularly pointed out hereinafter.

Keyed to the shaft 4 is a collar 20 upon which is loosely mounted a segment 21 having a beveled gear face 22 adapted to mesh with a similar gear face 23 upon a segment 24 which is carried by an adjustable collar 25 and held upon the shaft by the bolts 26, the collar 25 being preferably in two parts so as to permit its ready removal. The segment 21 is provided with a laterally projecting arm 27 which is connected to a weight 28 by a flexible cable or chain 29 passing over a pulley 30 mounted upon a cross bar 31. This cross bar is secured to the frame 2 and is provided with a limiting stop 32 which lies in the path of the arm 27 and limits the movement of the segment 21 in one direction of movement.

The lower arm 13 has pivotally connected thereto a sliding rod 33 which passes through a channel 34 in the shaft 4 and has a slotted laterally projecting end 35 which is adapted to reciprocate in a slot 36 formed in the shaft and communicating with the channel 34. This slotted end is engaged by a pin or arm 37 which projects laterally from one end of the segment 24 so that when the lower arm is raised the segment 24 will be turned on its pivot and this segment meshing with the segment 21 will turn the same upon the shaft and raise the weight for a purpose to be hereinafter described.

It is preferable that the bag to be caught by the catcher of the train be held in an out of the way position until the train is at

a predetermined point. In order to do this, a collar 38 is secured to the lower end of the shaft and is provided with a projecting arm 39 which is engaged by a catch 40 arranged at the end of a transverse shaft 41 which is journaled in bearings 42 carried upon a cross brace 43. The outer end of the shaft is provided with a crank 44 which is connected to a link 45, whose opposite end is pivoted to a bell crank 46 pivoted in a bracket bearing 47 at any suitable point from the shaft 4. This bell crank lever is operated by an arm 48 pivoted upon a bracket 49 and throwing downwardly against the bell crank lever by means of a roller 50 which is carried upon the train in some suitable position. The catch 40 is normally held in engagement with the arm 39 by means of a spring 51. This spring in raising the catch into engagement with the arm also elevates the bell crank lever and the free end of the arm 48. When the roller depresses the arm, the bell crank lever is turned upon its pivot and the catch 40 withdrawn from the arm for a purpose to be hereinafter described.

Secured to the slide 10 are a pair of separated sleeves 52 in which are adjustably mounted arms 53 connected together by a brace 54. These arms carry the converging arms 55 and 56 which form a restrictive passage 57, through which the lateral end 58 of a catcher member 59 is adapted to pass. This catcher member is substantially the form of the ordinary catchers now in use except that its upper end is divided or bifurcated to form separated spring fingers 60 which are adapted to receive a mail sack 61, as shown in Fig. 5. Certain of the converging wires of the frames 55 and 56 are curled inwardly, as shown at 62, to prevent the sack from becoming disengaged from the frames when once placed therein by the catching and delivering device 59. The inner end of the device 59 is provided with a head 63 which is centrally apertured to receive a supporting bar 64 carried upon a mail car 65 and projecting from the head is an arm or handle 66 by which the device may be raised or lowered.

In the modification shown in Fig. 11, the spring 9 is eliminated and the inner end of the upper arm 14 is provided with an adjustable weight 67 and the outer end of the lower arm 13 is provided with an adjustable weight 68.

The modified form of catch illustrated in Fig. 12 shows the shaft 41 provided with a weighted arm 69 upon which the catch 70 is formed adapted to engage the arm 39. In this instance, the spring 51 is dispensed with.

In the operation of the device, the arms 13 and 14 are moved to horizontal position and the bag placed upon the pivoted fingers

at the end thereof. In raising the lower arm 13, the rod 33 is depressed and the segment 24 turned upon the head 25. This action rotates the segments 21 and raises the weight. The catch 40 being in engagement with the arm prevents the rotation of the shaft under the action of the weight until the roller 50 is passed over the arm 48 at which time the catch will be depressed and the weight will rotate the shaft and the standard 8 to operative delivering position, the arm 27 coming to a stop against the stop 32 and the arm 39 engaging a stop 71 and thus preventing further rotation of the shaft. As the train approaches the catching and delivering mechanism, the lateral end 58 passes through the frames 55 and 56 and as the sack 61 is larger than the passage 57, the catching device 58 will pass on through the frames leaving the sack therein. The hook portion 72 of the catching device then engages the sack upon the arms 13 and 14 and, as this sack is released, the spring 9 will act against the fingers 15 and 16 to depress the lower arm and to raise the upper arm. The depression of the lower arm causes the rod 33 to be raised and consequently the segment 24 to be turned upon the head. As the segment 24 turns in engagement with the segment 21, the entire shaft will be rotated by the action of the spring 9, it being understood that the segment 21 is prevented from rotation by reason of the fact that the stop 27 is in engagement with the stop 32. The slot 17 in the finger 15 is provided so that after the arm 13 has been brought to horizontal position, the arm 14 may be lowered considerably beyond the horizontal so as to accommodate the device for smaller bags, the link or connecting rod 19 rising in the slot 17 to accomplish this purpose.

What is claimed is:—

1. In combination, a rotating member, pivoted bag supporting arms carried thereby, means held in operative position to rotate said member in one direction when the bag is upon the arms, means to hold said member against rotation, train controlled mechanism for releasing said holding member, automatically actuated means for separating the arms and reversely rotating the member when the bag is released from the arms, and a catching device carried by the member and rotatable therewith.

2. In combination, a rotating member, pivoted bag supporting arms carried thereby, means held in operative position to rotate said member in one direction when the bag is upon the arms, means to hold said member against rotation, train controlled mechanism for releasing said holding member, automatically actuated means for separating the arms and reversely rotating the member when the bag is released from the

arms, and a catching device adjustably mounted upon the member and rotatable therewith.

3. In combination, a rotatably mounted shaft, pivoted bag supporting arms carried thereby, an operating connection between said arms, means actuated by one of the arms which normally tends to rotate the shaft when a bag is in position upon the arms, means for holding said shaft against rotation, train operated mechanism for releasing said holding means, means to limit the rotation of the shaft, means for separating said arms, and reversibly rotating the shaft, and a catcher carried by the shaft.

4. In combination, a rotatably mounted shaft, pivoted bag supporting arms carried thereby, an operating connection between said arms, means actuated by one of the arms which normally tends to rotate the shaft when a bag is in position upon the arms, means for holding said shaft against rotation, train operated mechanism for releasing said holding means, means to limit the rotation of the shaft, means for separating said arms, and reversibly rotating the shaft, a catcher carried by the shaft, and a car carried catcher and deliverer to remove the sack from the arms to deliver the sack to the catcher.

5. In combination, a rotating shaft, pivoted bag supporting arms carried thereby, car controlled mechanism for moving the arms in a bag catching position, and means actuated upon the releasing of the bag for returning the arms to normal position.

6. In combination, a pair of pivoted bag

catching arms, car controlled mechanism, set by a bag upon the arm for throwing the bag into operative position, a car carried catcher, means to normally spread said arms, and means actuated by one of the arms when the bag is released therefrom for returning the arms to normal position as they are spread.

7. In combination, a pair of pivoted bag catching arms, means for normally holding them parallel to the line of travel, car controlled means set by a bag upon the arms for throwing the arms at right angles to the line of travel, and means actuated when the bag is released to simultaneously spread the arms and return them to normal position.

8. In combination, a rotatable member, a pair of horizontally pivoted bag supporting arms, means for normally holding said arms spread apart and parallel to the line of travel, means set by a bag upon the arm for rotating the member, means to hold the member against rotation, car controlled means for releasing said holding means and permitting said rotating means to act whereby the arms are thrown at right angles to the direction of travel, and means actuated by the first-named means for resetting the device and returning the arms to a position parallel with the direction of travel.

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

BENJAMIN EVANS.

Witnesses:

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M. FROTHINGHAM.