(No Model.) 3 Sheets—Sheet 1.

C. T. ANDERSON.

MAIL BAG DELIVERER.

No. 459,190. Patented Sept. 8, 1891.

Fig. 1.

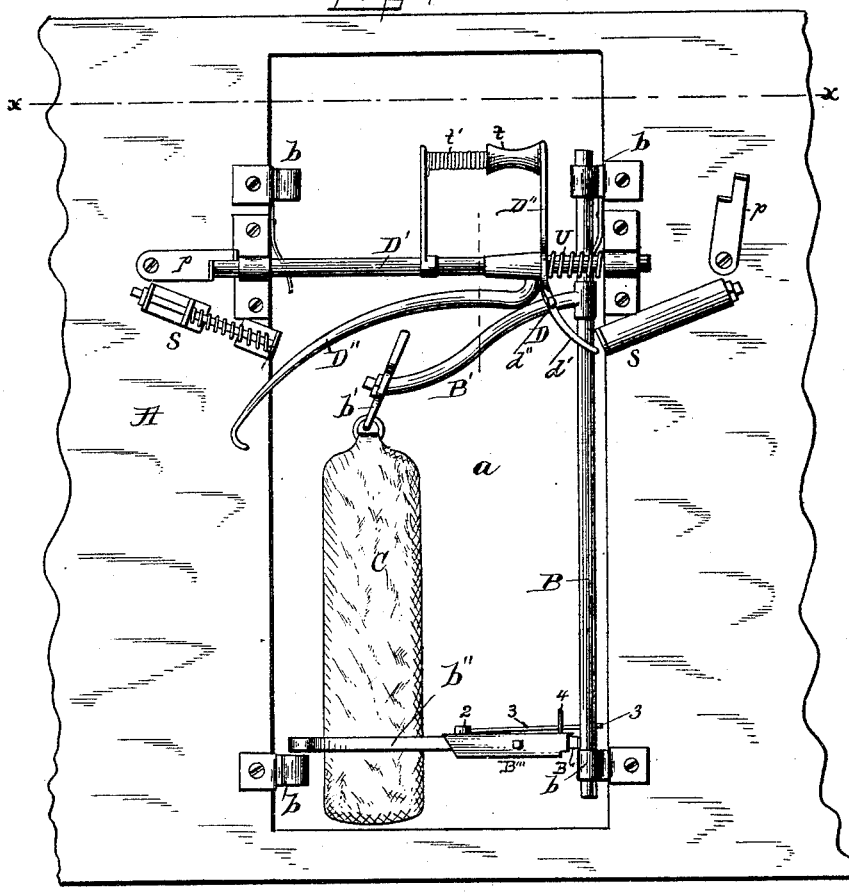

Fig. 2.

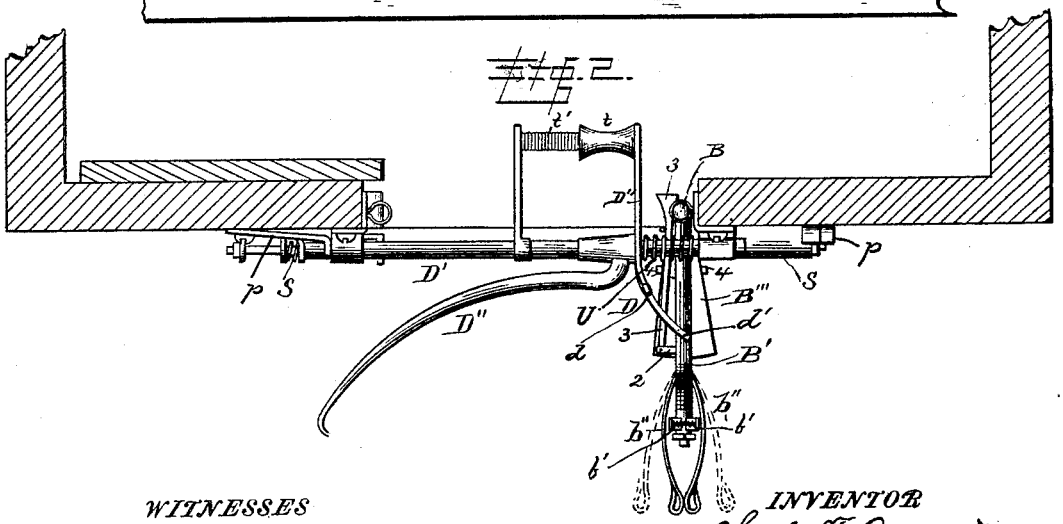

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Fig. 3.

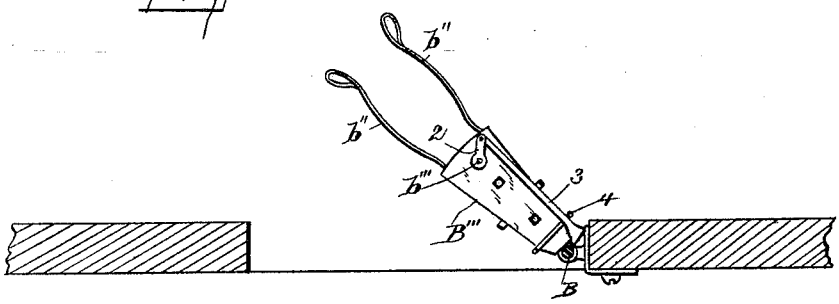

Fig. 4.

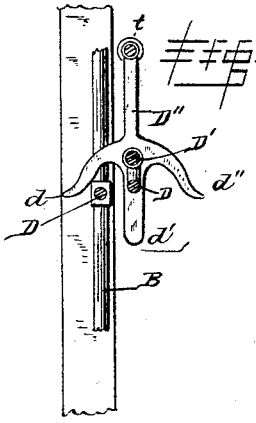

Fig. 5.

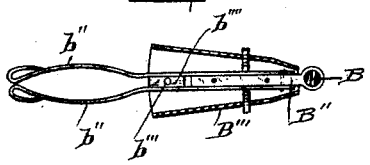

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Fig. 6.

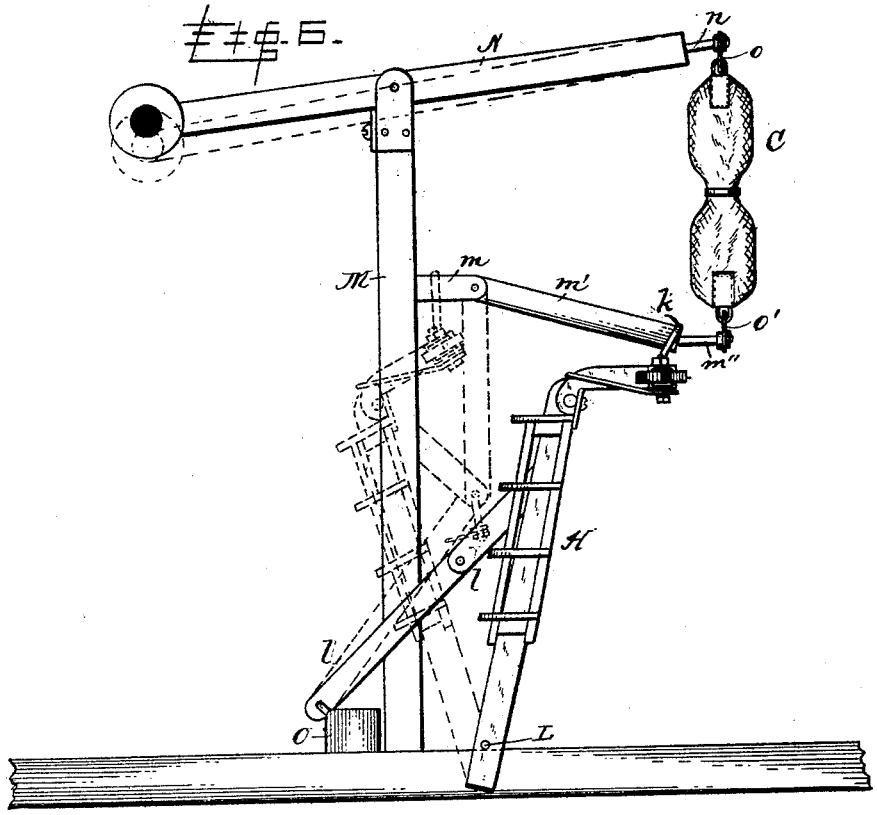


Fig. 7.

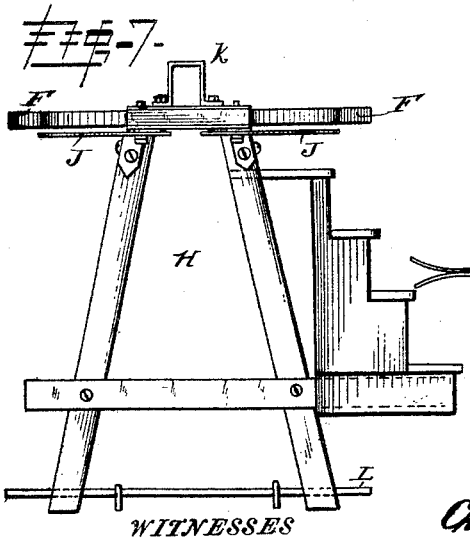
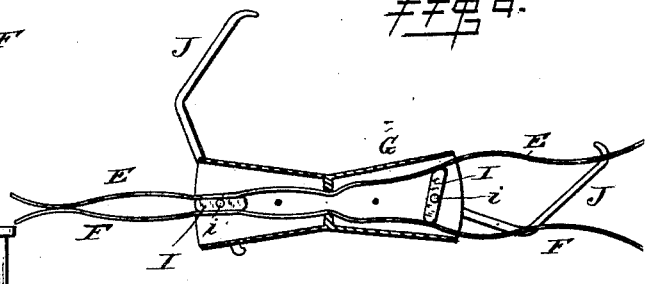


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES T. ANDERSON, OF CLARKSBURG, MARYLAND.

MAIL-BAG DELIVERER.

SPECIFICATION forming part of Letters Patent No. 459,190, dated September 8, 1891.

Application filed May 22, 1891. Serial No. 393,707. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. ANDERSON, a citizen of the United States of America, residing at Clarksburg, in the county of Montgomery and State of Maryland, have invented certain new and useful Improvements in Apparatus for Delivering Mail-Bags from Railway Mail-Cars, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises an apparatus for delivering mail-bags from postal cars in motion to stations along the road; and it consists in the construction and arrangement, as hereinafter described, of devices within the car for holding and delivering mail-bags to a receiving and holding apparatus located at the side of the track, and in the construction of the receiving and holding apparatus to which the bag is delivered from the car.

In the accompanying drawings, which illustrate my invention and form a part of this specification, Figure 1 is a side view of the apparatus for delivering the mail from the car to the receiver at the side of the track. Fig. 2 is a plan view showing the apparatus turned out, as in delivering a bag. Fig. 3 is a plan view, and Fig. 5 a horizontal sectional view, of the spring-arms for holding the lower end of the bag. Fig. 4 is a side elevation of the lever for swinging the delivery apparatus into and out of the car. Fig. 6 is a side view of the receiver located at the side of the track, showing also a holder and a mail-bag suspended thereon and ready to be taken off by a passing car. Fig. 7 is a front view of the receiver located at the side of the track to receive mail-bags from a passing car, and Fig. 8 is a horizontal sectional view showing the spring-arms of the receiver.

The same parts are designed by the same letters and figures of reference in all the views.

A designates the postal car with the ordinary door *a* in the side.

B designates a vertical shaft journaled in bearings *b b* at the side of the door. This shaft B has a horizontal or inclined arm B′, the end of which carries a spring-clamp *b′* composed of two spring-jaws adapted to hold between them a loop or ring attached to the upper end of a mail-bag C so that it may be drawn away from between the same by a pull upon the bag.

At or near the lower end of the shaft B are a pair of spring-arms *b″ b″*, attached to an arm B″ of the said shaft. These spring-arms are partially inclosed by a housing B‴, which affords bearings for a vertical cam-shaft *b‴*, upon which is mounted a double cam *b⁗* to force the said spring-arms *b″ b″* apart. Upon the end of the cam-shaft *b‴* is a crank-arm 2, to the end of which is pivotally connected a push-bar 3, which is retained in position by suitable guides or keepers 4 on the casing or housing B‴, and which, when the shaft B is turned inward to throw the arms *b″* into the car, as indicated in Fig. 3, will abut against the door-frame, and by turning the shaft *b‴* and its cam *b⁗* will force the spring-arms *b″ b″* apart to receive between them the mail-bag C. The bag being then suspended from the spring-clamps *b′* and its lower end placed between the spring-arms *b″ b″* will be held by said devices in the position shown in Fig. 1. When the station is being approached at which the bag is to be delivered from the car, the shaft B is turned in its bearings so as to throw its arm B′ and the spring-arms *b″*, together with the mail-bag C, out of the car, in order to bring the bag into position to enter the receiver at the side of the track. As soon as the outward movement begins the pressure of the push-bar 3 against the door-frame will be relieved, and the cam *b⁗* will be allowed to turn back gradually into its normal position, as shown in Fig. 5, whereby the spring-arms *b″ b″* are permitted to close upon the bag and to grasp the same tightly and securely, so as to prevent its falling to the ground in the event of its becoming detached from the clamps *b′* before entering the receiver at the station.

The shaft B is turned in and out by a lever-arm D on the transverse shaft or bar D′, which latter is the usual device for taking mail-bags from stations along the road, and enters into my invention only to the extent of the special construction and arrangement whereby it is adapted to co-operate with the holding and delivering devices already described. The lever-arm D is formed with three prongs *d d′ d″*, two of which straddle the arm B′ of the shaft B, so that when the shaft D′ is turned

by its handle D'' the arm B' will be turned in or out.

Figs. 6, 7, and 8 illustrate the receiver into which the mail-bag is delivered from the car by the devices above described. This receiver consists, essentially, of two pairs of spring-arms E F, adapted to receive between them and to hold the mail-bag when it is delivered from the car. These spring-arms are secured in a holder G, which is mounted on a suitable stand H at the side of the track and at such height as to bring the arms E F into the plane of the middle of the bag as it hangs suspended on the holding devices of the car. The arms E F are horizontal, and their open ends stand in the direction from which the car approaches, so as to receive between them the mail-bag as it is carried along, and in order to provide for receiving bags coming from either direction the receiver is made double, with two pairs of arms pointing in opposite directions. These spring-arms are arranged to be thrown apart by a double cam I, placed between them in the same manner that the spring-arms b'' b'' are thrown apart and opened. The cam I is rigid on a short vertical shaft i, which is journaled in the holder G. On one end of the shaft i is fixed an angular or bent-lever arm J, by which the shaft i and its cam I are turned. The arm J is so arranged that when the cam is in position to spread and hold the jaws E F apart, as shown at the right hand of Fig. 8, it will stand across the jaws in the way of any object entering between them. If now a mail-bag be inserted it will strike the lever-arm J and turn it aside, thereby turning the cam I and releasing the arms E F, when the latter will spring together and grasp and hold the bag with sufficient force to pull it away from the holding devices on the moving car. The jaws E F it will be understood are to be set or opened by an attendant preparatory to the arrival of the mail-car.

H designates the stand or support upon which the receiver is mounted. This stand is hinged or pivotally connected with a base-support L, so as to be capable of swinging toward and from the track, as indicated in full and broken lines in Fig. 6. In the position indicated in full lines it stands ready to receive a mail-bag from a passing car, but when turned back into the position indicated by broken lines it is out of the way of passing trains.

M designates a post erected at the side of the track to support mail-bags to be taken by passing cars. Upon this post is pivoted a weighted arm or lever N, capable of swinging in a vertical plane toward and from the track. At the end toward the track this arm carries a holding pin or stud n, which receives a ring or loop o at one end of the mail-bag C to support the latter in position to be caught by an arm D'' on the shaft or bar D' in the usual manner. Below the arm N a rigid arm m projects from the post M, to which arm is pivoted a swinging arm m', the free end of which has a projecting pin or stud m'' to receive a ring or loop o' on the lower end of the bag C, to hold the latter from swinging and so as to be in position to be caught by the arm D''. On the top of the stand H is a loop k, through which the arm m' works loosely, so as to permit the stand to be thrown into the inclined position indicated by the broken lines in Fig. 6. In this latter position it is out of the way of passing trains and remains in this position until it is required for use when it is turned forward into the position indicated in full lines, being supported in this position by links l l, pivoted to the stand and to a suitable post or block O. It will thus be seen that this apparatus is adapted both to receive a mail-bag from and to deliver one to a passing mail-car at the same time, the bag suspended, as in Fig. 6, being caught and taken off its supports by the arm D'' in the usual manner, while the bag suspended from the holding devices on the car is caught by the receiving-jaws E F on the stand H, as already explained.

In order that bags may be delivered to the receiver from either direction, it is necessary to transfer the shaft B, with its holding devices, from one side of the door to the other, and I therefore place bearings for said shaft at both sides of the door, so that it may be shifted from one side to the other, according to the direction in which the car is moving. When the apparatus is so shifted from one side to the other, it becomes necessary also to adjust or set the cam b'''' and the push-rod 3 to correspond with the new position, in order that the said devices may operate, as already explained, to open the jaws b''. This adjustment is effected by simply turning the cam-shaft b''' half-way round, so as to reverse the cam and make the crank-arm 2 stand in the opposite direction. Then by swinging the inner or free end of the push-bar 3 over against the keeper 4 on the opposite side of the casing B''' the said push-bar will be in position to abut against the door-frame when the holding devices are turned into the car, and the cam will be turned and the jaws spread apart, as before.

In order that mail may be taken into the car when moving in either direction, the shaft D' is also made reversible, and whether mail is to be taken into the car or not when the holding and delivering apparatus on the car is changed from one side of the door to the other, as above explained, the shaft D' is also reversed, in order to bring the lever-arm D into position to engage and turn the arm B' of the shaft B, and in order that the said lever-arm may be operative in either position to turn the said arm both in and out it is provided with the three prongs d d' d''. In one position the arm B' is embraced and operated by the prongs d d' and in the other position by the prongs d' d''.

p p are latches for retaining the bar D' in proper position in its bearings. The said bar is taken out by sliding it endwise until one

end is free, and then moving it in the opposite direction until the other end is free. The arrangement is such that the first of said movements is in the direction in which the arm D″ points, and therefore only the latch at that end is in operation. This latch is turned down against the end of the bar to prevent forward movement. In reversed position the bar is held in place by the latch at the other side of the door.

S S are springs arranged at the sides of the door in such position that they will be struck by the arm B′ when the same is turned out in the operation of delivering a mail-bag to the receiver at the side of the track. These springs arrest and hold the said arm with a yielding pressure, and are for the purpose of avoiding strains and injury to the apparatus. In the drawings one of said springs is shown inclosed or covered by a housing, while the other is shown uncovered. In use both are intended to be protected by housings.

D″ designates the handle by which the bar D is turned into operative position. A hand-piece *t*, to be grasped by the hand, is loosely sleeved upon the horizontal bar of the handle and is held against one side of the handle by a spring *t′*. This allows the hand-piece to yield and prevents injury to the hand of the operator by any sudden blow.

Surrounding the bar D′, back of the handle D″, is a spring U, which holds the bar D′ forward with a yielding pressure. This allows the bar to yield and prevents the strain and injury in taking up heavy bags. In the operation of this apparatus, when the bag, suspended from the holding devices on the car, enters between the jaws E F of the receiver and is grasped and held thereby, the pull exerted upon it spreads the jaws *b″ b″* and pulls it from the holding-clamp *b′*. The jaws *b″ b″* being flexible, the one against which the pull referred to is exerted (the rear one) pulls that jaw back, so that the bag in passing out from between the said jaws *b″ b″* is deflected or thrown outward away from the car, whereas in other apparatus with which I am acquainted the tendency is to throw the bag toward the car. This outward throw of the bag exerts also an outward pull upon the receiving-jaws E F and throws the stand K, upon which they are mounted, back into the position indicated in broken lines, where it is entirely out of the way of passing trains.

Having now described my invention, I claim—

1. In an apparatus for delivering mail-bags from a car, the combination, with the car, of a rotatable vertical shaft supported in bearings at the side thereof and provided with upper and lower arms standing out therefrom in substantially the same radial plane, a spring-clamp on the upper arm to hold the upper end of a mail-bag, horizontal spring-arms on the lower arm to hold the lower end of the bag, and a cam between said arms to spread them apart for the reception of the bag, substantially as shown and described.

2. In an apparatus for delivering mail-bags from a car, the combination, with the car, of a rotatable vertical shaft supported in bearings at one side of the door, a horizontal arm on said shaft, horizontal spring-arms projecting beyond the said arm on the shaft, a cam between said spring-arms to spread them apart for the reception of a mail-bag between them, a crank-arm on the shaft of said cam, and a push-bar connected with said crank-arm and adapted to be pressed against the door-frame to operate the cam when the shaft is turned inward, substantially as shown and described.

3. In a mail-delivering apparatus, the combination, with the car, of a rotatable vertical shaft supported in bearings at one side of the door and provided with horizontal arms to support a mail-bag in vertical position, a horizontal shaft or bar supported in bearings across the door and provided with an inclined arm or horn D″ to catch a mail-bag suspended at the side of the track, and a forked lever-arm in engagement with one of the arms of the vertical shaft to turn the latter in its bearings, substantially as shown and described.

4. In a mail-delivering apparatus, the combination, with the car, of a rotatable vertical shaft supported in bearings at the side of the car and provided with upper and lower arms for supporting and holding a mail-bag, a pair of spring-jaws located on a stand at the side of the track and adapted to receive and hold a mail-bag, a cam between the said jaws to hold them apart, and a tripping-lever connected with said cam and standing when the jaws are open in the path of the bag to be received, and arranged to be tripped thereby to turn the cam and allow the jaws to close, substantially as shown and described.

5. In a mail-delivering apparatus, the combination of a rotatable vertical shaft supported in bearings at the side of a car, an arm on the upper end of said shaft to support the upper end of a mail-bag, a pair of spring-arms on the lower end of the shaft to hold the lower end of the bag, a pivoted stand at the side of the track adapted to swing toward and from the latter, and a pair of spring-arms on said stand, adapted to receive a mail-bag from the supporting devices on the car, substantially as shown and described.

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

CHARLES T. ANDERSON.

Witnesses:

J. M. COOMBS,

C. WEISMAN.