

No. 895,829.

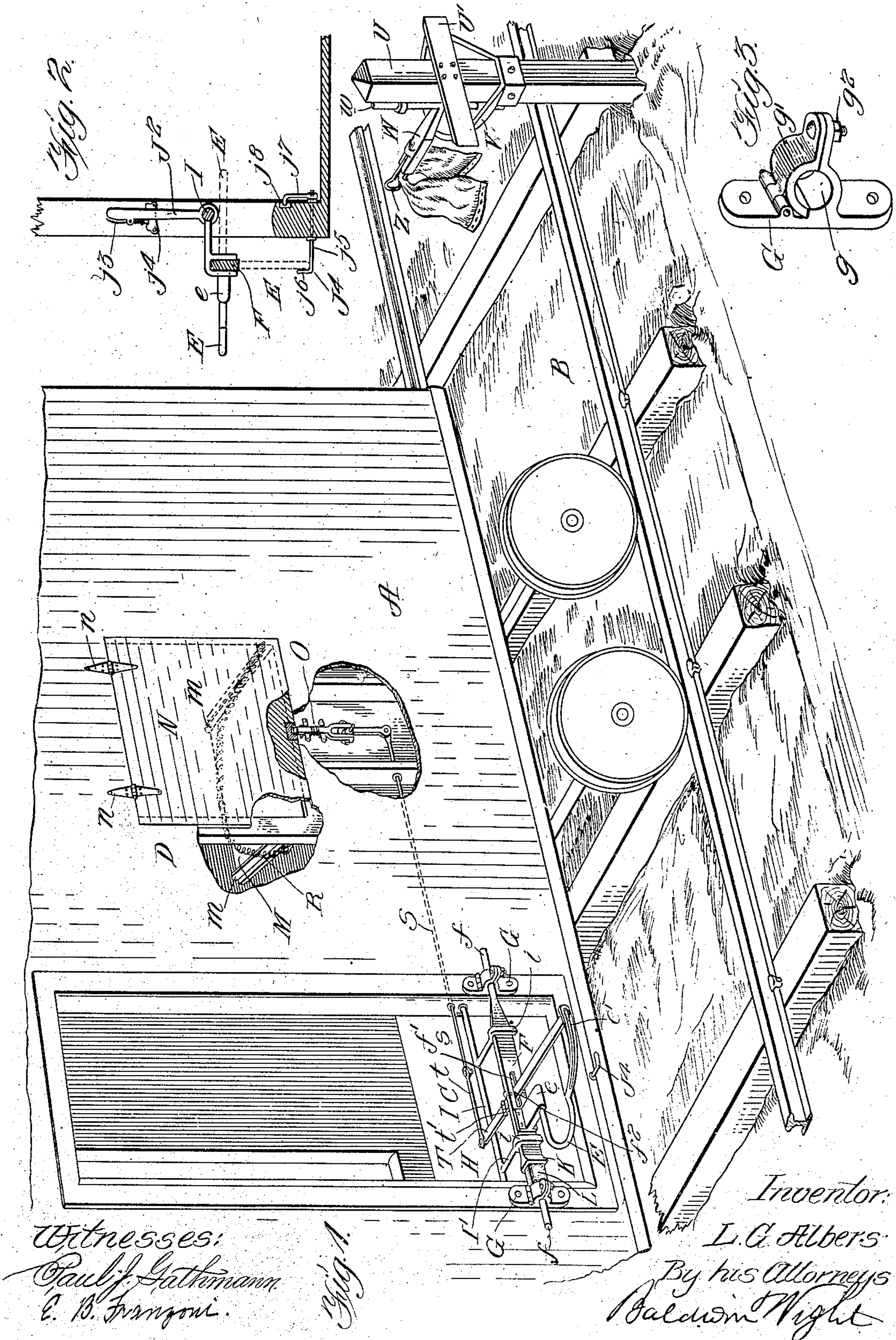
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PATENTED AUG. 11, 1908.

CATCHING AND DELIVERING DEVICE FOR MAIL BAGS.

APPLICATION FILED APR. 17, 1908.

2 SHEETS—SHEET 1.



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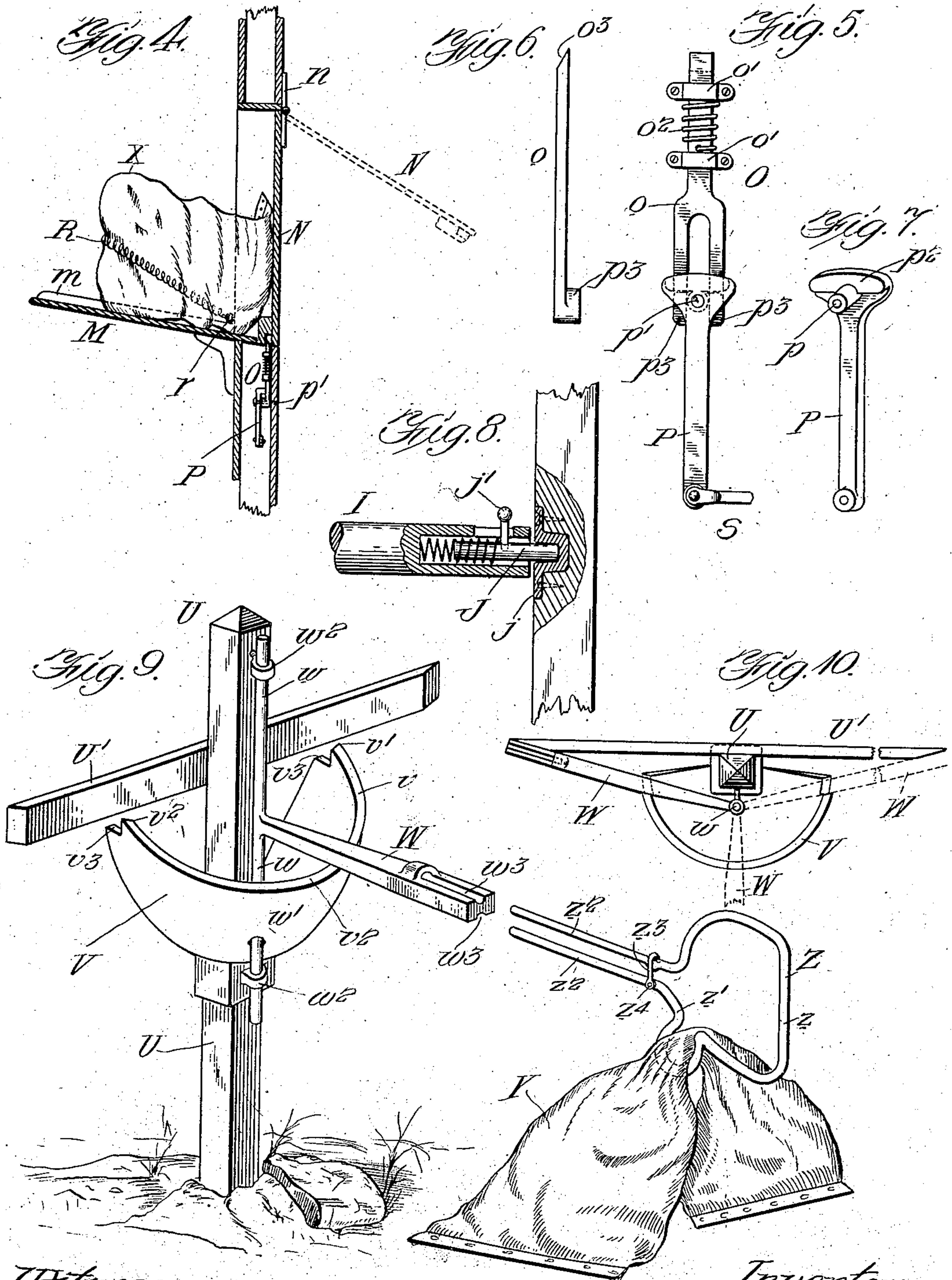
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Witnesses:

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LUEBBO G. ALBERS, OF ALBUQUERQUE, TERRITORY OF NEW MEXICO.

CATCHING AND DELIVERING DEVICE FOR MAIL-BAGS.

No. 895,829.

Specification of Letters Patent.

Patented Aug. 11, 1908.

Application filed April 17, 1908. Serial No. 427,626.

To all whom it may concern:

Be it known that I, LUEBBO G. ALBERS, a citizen of the United States, residing at Albuquerque, in the county of Bernalillo and Territory of New Mexico, have invented certain new and useful Improvements in Catching and Delivering Devices for Mail-Bags, of which the following is a specification.

According to my invention I provide mechanism whereby mail bags, pouches and parcels may be automatically both caught by and delivered from a rapidly moving railway train.

I will hereinafter describe my invention as adapted for catching and delivering mail bags, but it will be understood that it is suitable for use in catching and delivering bags, pouches and parcels of various kinds, and that catching and delivering devices may be used conjointly or separately.

In carrying out my invention in the most approved way I equip a mail car with a catching device which, when in operation, projects laterally from the door-way of the car and is adapted to engage a mail bag held at a station by a support which may be of any suitable construction but which preferably comprises a horizontal arm swinging on a vertical support over a curved inclined guide and which carries a detachable holder to which the bag is attached and which separates with the bag from the arm when engaged by the catcher on the train. The catcher is connected with devices, operated by the bag holder as it engages the catcher, which actuate mechanism that releases a door in the side of the car permitting it to open and enable a bag to be ejected through the door-way by an automatically operating spring. The mechanism which I employ and which has been briefly described will be hereinafter explained more in detail.

In the accompanying drawings,—Figure 1 is a perspective view showing a portion of a railway mail car equipped with my improvements and also showing my improved devices for holding a mail bag at a station to be delivered to a train. Fig. 2 is a detail view in vertical section showing particularly the devices for locking the mail bag catcher in its operative position and also devices for locking the catcher when in its inoperative or withdrawn position. Fig. 3 is a perspective view of one of the bearing brackets for the horizontal frame bar of the catcher. Fig. 4 is a detail view in vertical section of

the improved means for ejecting a mail bag from a car. Figs. 5, 6, and 7 are views on an enlarged scale of the latch mechanism for the swinging door of the ejector. Fig. 8 is a detail view of the means for pivoting the locking frame to the door-way of the car. Fig. 9 is a perspective of my improved devices for supporting or holding a mail bag in position to be caught by the catcher on the moving train. Fig. 10 is a plan view of a portion thereof.

Fig. 1 shows a portion of a railway mail car A on a track B, my improved catching devices being indicated at C and the delivering or ejecting devices at D. The catcher comprises a hook E attached to an arm *e* projecting laterally from a bar F formed at opposite ends with trunnions *f*, mounted in bearings attached to opposite sides of the main door-way. These bearings consist of brackets G having fixed or stationary lower sections *g* and hinged upper sections *g'* which are normally held firmly in place by bolts *g*², but which permit of the bar F being withdrawn from its bearings and reversed if desired. A locking frame H is arranged in the door-way immediately in rear of the hook-carrying bar or frame F, which comprises a horizontal rod I carrying locking arms I' formed with bifurcated outer ends *i* that engage the hook-carrying bar F in the manner shown. The opposite ends of the rod I are provided with sliding spring actuated trunnions J (Fig. 8) which when projected enter sockets *j* in the sides of the door-way of the car. The sliding trunnions are provided with handles *j'* by means of which they may be detached from their sockets and when thus detached the locking frame may be withdrawn from the door-way if desired. The locking frame is adapted to turn on its trunnions and may occupy either the locking position, shown in Fig. 1, in which it may be firmly held by the devices shown in Fig. 2, or the locking frame may be raised to permit the catcher to be moved inside the door-way or drop to a vertical position outside of the door-way, as indicated in Fig. 2. A handle J² is secured to the rod I, projects upwardly therefrom and carries a detent *j*³, engaging a rack *j*⁴. When thus engaged the locking devices are held firmly in engagement with the catch bar F. When the catch bar is turned to cause the hook to be withdrawn from its operative position to the vertical position outside of the car, shown in Fig. 2, the hook may be thus

held by a catch J^4 , consisting of a horizontally arranged rod j^5 adapted to turn about its axis having an outer locking portion j^6 adapted to engage the hook and an inner upwardly projecting arm j^7 , by means of which the rod may be turned and which is adapted to engage a locking socket, j^8 on the inside of the car. The catch bar F is formed with an enlargement or shoulder K, between which and the adjacent bearing bracket G is interposed a cushion or rubber or other suitable material to relieve the shock caused by the engagement of the hook with the bag holder. The bag is caught and held by the hook in the manner hereinafter more fully explained.

The bag to be delivered is placed on a shelf M mounted within the car below a relatively small door-way normally closed by a door N, which, as shown, is mounted to swing upwards on hinges n connecting its upper end with the side of the car above the door-way. Normally the door is held closed by a latch O, shown in detail in Figs. 5, 6, and 7, and which comprises a vertically moving bolt o guided by stationary straps o' , between which is interposed a spring o^2 attached, as shown in Fig. 5, to the bolt and tending to move the bolt upward. At its upper end the bolt is beveled, as shown at o^3 , and engages a socket in the lower edge of the door. At its lower end the bolt is bifurcated and straddles a boss p on the upper enlarged or headed end of an oscillating lever P pivoted to swing on a stationary pivot at p' and formed with a flange p^2 extending over lugs p^3 on the lower ends of the bifurcated portion of the bolt. The arrangement is such that if the lever be swung in either direction the bolt will be lowered or withdrawn from engagement with the door.

The bag for delivery is arranged on the platform M with one end bearing against the swinging door N and against which it is pressed by a spring R, extending across its rear end, and which has its opposite forward ends attached at r to the platform, which latter is preferably slightly inclined from its rear end downwardly, as shown, and may be formed with upwardly projecting flanges m on opposite sides. The arrangement is such that when the latch is operated, the spring forces the bag with the door through the door opening and the bag is delivered to the platform of a station for which it is designed or to some suitable receptacle.

The latch may be operated manually or automatically. As shown, the lever P is jointed at its lower end to a horizontally arranged rod S which extends through and is guided by the side frame of the car. Its end s which extends into the door-way is jointed to a link t , in turn jointed to the rear end of a lever T extending through a slot f' in the catch bar F and pivotally connected therewith at f^2 . The outer end of

the lever T extends through a slot e' in the outer portion of the hook E, and the lever is made in sections hinged together at t' in rear of the catch bar F.

When a train in motion arrives at a station where a bag is suspended, the bag holder engages the hook E and the bag and holder are caught and detained thereby. The lever T is at the same time turned on its pivot and causes, through the connections before described, the latch O to be withdrawn from the swinging door and the bag X to be delivered through the adjacent doorway. Thus by my improvements a mail car, while traveling at full speed, may automatically catch and detain a bag for transportation and at the same time automatically deliver a bag to the station for which it is intended. The catching devices are simple in construction and may be conveniently mounted on a mail car, or detached therefrom. In Fig. 1 the parts are shown in working position. The hook projects only a short way from the door-way and hence is not apt to encounter any object except the holder of the mail bag which it is intended to receive. It is firmly held in this position by the locking devices before mentioned, and these locking devices may be easily detached from the catch bar in order that after a bag has been received by the catch hook the latter may be swung upwardly and over into the door-way holding the bag within convenient reach of the mail clerk, so that he need not lean out of the door of the car, and when the catcher is not in use it may be lowered close to the side of the car and held there, in the manner shown in Fig. 2. After a bag has been delivered from the car, the spring is relaxed and the door will close by its own weight and will automatically engage the latch. The door may, however, be easily opened and closed from the inside if desired.

In order to adapt the devices to operate when the car is moving in either direction, I have mounted the trunnions of the catch bar in bearings which may be easily opened to permit the removal and reversal of this bar. In order to reverse the catch it is only necessary to remove the bar F from its bearings and reverse it end for end. In order to do this however it will be necessary to disconnect the lever T from the rod S, or the link t from the lever and attach it again. The hinge at t' may be such that the lever may be bent in either direction, the rear end of this lever being supported by the rod I.

The mechanism before described may be employed in connection with any suitable means for holding the mail bag in an elevated position in the path of the hook E, but I preferably employ the improved devices indicated in Fig. 1, and also shown more fully in Figs. 9 and 10. A vertical post U carries a

casting V having a curved upper bearing edge v that inclines downwardly from its opposite rear ends v' to its central portion v^2 . This casting has recesses v^3 at its opposite upper ends for a purpose hereinafter explained and behind the upper ends of the casting is arranged a cross bar U' which is attached to the post U. A horizontal arm W bears on the curved edge of the casting and is provided with upper and lower vertically extending arms w which extend through an opening w' in the casting V and through guide brackets w^2 attached to the post U. The arms are adapted to move vertically in their guides, as well as to turn therein.

The mail bag or pouch Y is supported on a holder Z, of novel construction. This, as shown, is made of stout wire having a loop z at its outer end formed with a smaller loop z' in which the middle portion of the bag or pouch is arranged, as indicated. From the loop Z project parallel arms z^2 which are held in their parallel position by a hook z^3 pivoted at z^4 to one of the arms and adapted to engage the companion arm in the manner indicated. When the hook is disengaged the bag or pouch may be easily connected with its holder, and when the hook is engaged, in the manner shown in Fig. 9, the bag and holder are securely connected. The arms z^2 are adapted to enter sockets w^3 in the arm W. Fig. 1 shows the holder thus engaged with the arm W, while Fig. 9 shows the holder withdrawn from the arm. When the bag is connected with its holder, as shown in Fig. 1, and the arm W rests on the lower central portion of the casting V, the holder will be held in position to engage the catcher carried by a moving train. The outer end of the hook E enters the loop z and the holder then strikes the lever T, opening the door N to allow the mail bag X to be ejected from the car. The arm W swings upwardly along the inclined curved edge of the casting, strikes against the cross bar U' and enters and is held within a notch v^3 of the casting. These movements cause the holder to be withdrawn from the arm W and the holder with its connected mail bag are thus retained by the catcher hook. The mail clerk can then move the hook into the door-way and remove the bag from the hook, detach the holder and retain it for future use. The supporting devices are constructed to operate in opposite directions, corresponding with the movements of the train. They are arranged to hold the bag at a comparatively low elevation and are thus out of the way of the upper portion of the locomotive so that an engineer leaning out of the window of his cab is not in any danger of being struck. Thus the bag may be placed quite close to the path of the train and the catch hook projecting only a comparatively short distance from the car is not apt to strike any obstruc-

tions in the path of the train. The mail bag may be placed in its holder at any convenient time before the arrival of the train and left without further attention, while the mail clerk may, at his convenience, set the catcher and delivering devices which will automatically operate, without further attention, at the proper time to receive the bag at the next station and to deliver the bag intended therefor. The catching devices may be arranged quite close to the floor of the car and thus will not interfere with the reception and delivery of the bags at large stations through the door-way.

I have described the best way now known to me of embodying my invention, but it is obvious that many changes may be made without departing from the novel features of my improvements. It is deemed unnecessary to specify various modifications of the mechanism which will be obvious to those familiar with this class of inventions.

I claim:

1. Combined mail bag catching and delivering mechanism comprising a hook or catcher projecting from a car, means for locking the hook in its operative position, normally locked automatic bag delivering mechanism, and a lever carried by the catcher and connected with the delivering mechanism whereby the locking devices of the latter are released and a bag automatically delivered when a bag is received by the catcher.

2. Combined mail bag catching and delivering mechanism comprising a reversible hook or catcher, means for locking it in its operative position, a door-way through which a mail bag is discharged, a door for normally closing this door-way and retaining the bag, a latch for locking this door in its closed position, and means carried by and connected with the catcher for operating the latch when the train is moving in either direction.

3. A mail bag catcher comprising a catcher bar mounted to turn about a horizontal axis, a catcher hook carried thereby, and a locking frame comprising a horizontal bar mounted to turn about a horizontal axis and having detachable connections with its bearings and locking arms projecting forwardly from this bar and engaging the catcher bar to hold it in operative position.

4. The combination of a horizontally arranged catcher bar having trunnions at opposite ends, bearings for the trunnions having separable portions to permit the removal of the bar from its bearings and a reversal thereof, a catcher hook carried by the bar and a detachable locking frame engaging the catcher bar.

5. The combination of a catcher bar mounted to turn about a horizontal axis and reversible end for end, a catcher hook car-

ried thereby, means for locking the catcher bar in either of its positions to hold the hook in its operative position, and means for holding the catcher hook in its lowered position parallel with the side of the car.

6. The combination of a platform within a car for supporting a mail bag in front of a door-way, a door hinged in the door-way, a spring for pressing the bag against the door, a latch normally holding the door closed and a lever connected with the latch and which is operated by an actuating device at the side of the track.

7. The combination of a catcher bar mounted to turn about a horizontal axis, a catcher hook carried thereby, means for locking the catcher bar in its operative position, a lever pivoted to the catcher bar and extending forwardly therefrom into the hook, a door-way through which a bag is discharged from the car, a door normally closing this door-way, a latch engaging the door to hold it closed and connections between the latch and the lever carried by the catcher bar.

8. The combination of a vertical post, a casting secured thereto having a curved, upper edge inclined from its upper outer ends downwardly to its middle portion, an arm

pivotally connected with the post and resting on the curved edge of the casting, and a detachable holder for the bag carried by the arm.

9. The combination of a vertical post, a casting secured thereto and having a curved, inclined upper edge and recesses at the upper ends of the curved, inclined portion, an arm pivotally connected with the post and adapted to move vertically and sidewise relatively thereto while resting on the curved upper edge of the casting and a holder for a bag detachably connected with the arm.

10. The combination of a vertical post, an arm pivotally connected therewith to swing about a vertical axis, and a holder detachably connected with the arm, having a looped portion for engaging the bag, parallel spring arms for engaging the swinging arm and between which the bag is passed into the loop, and devices for holding the spring arms closed.

In testimony whereof, I have hereunto subscribed my name.

LUEBBO G. ALBERS.

Witnesses:

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