No. 884,310. PATENTED APR. 7, 1908.

J. F. BLACK.

MAIL BAG DELIVERER.

APPLICATION FILED OCT. 23, 1907.

2 SHEETS—SHEET 1.

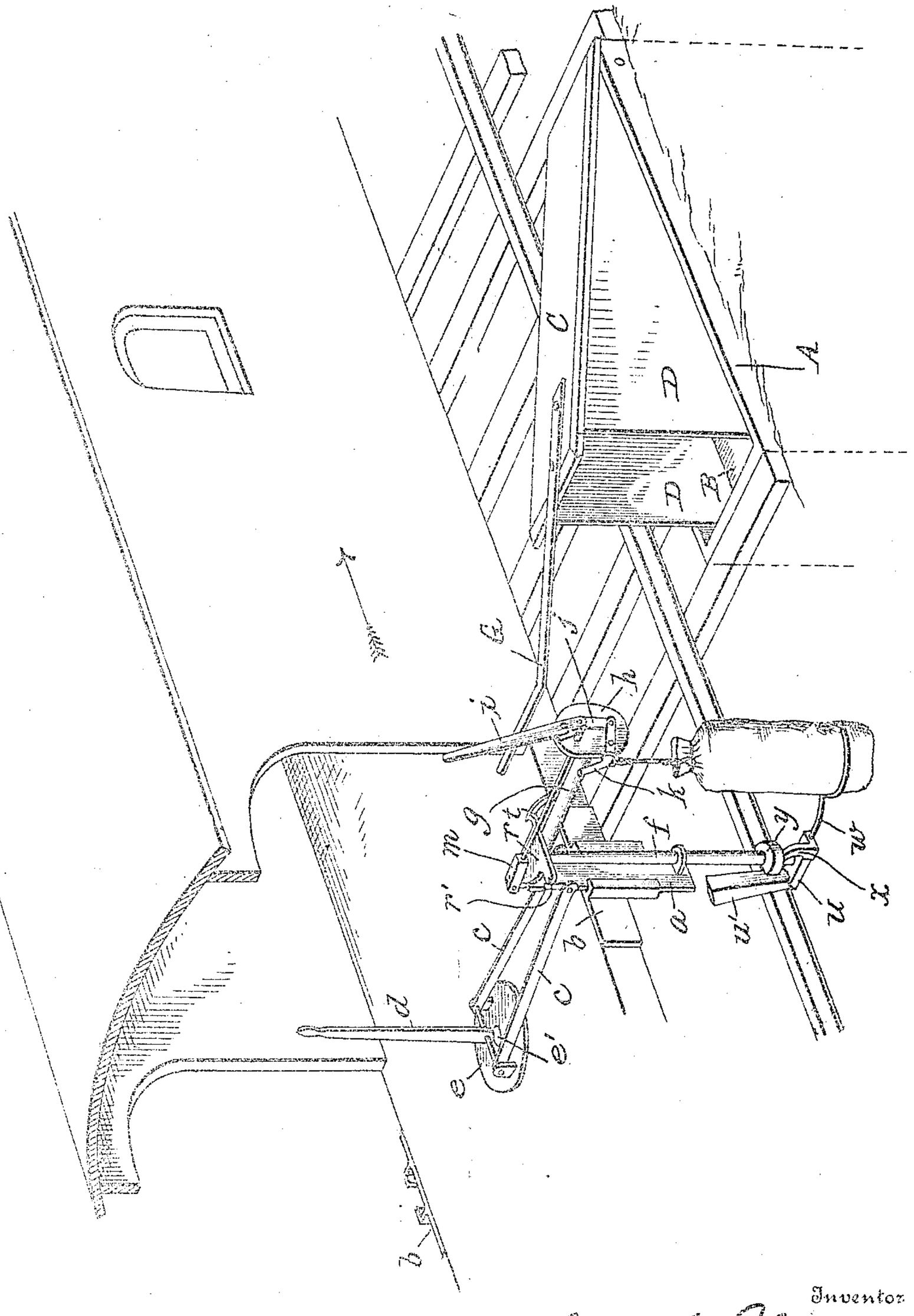

Fig. 1.

Witnesses

Edwin L. Reese

C. A. Partridge

Inventor

John F. Black,

By Davis & Davis,

Attorneys.

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2 SHEETS—SHEET 2.

Fig. 2.

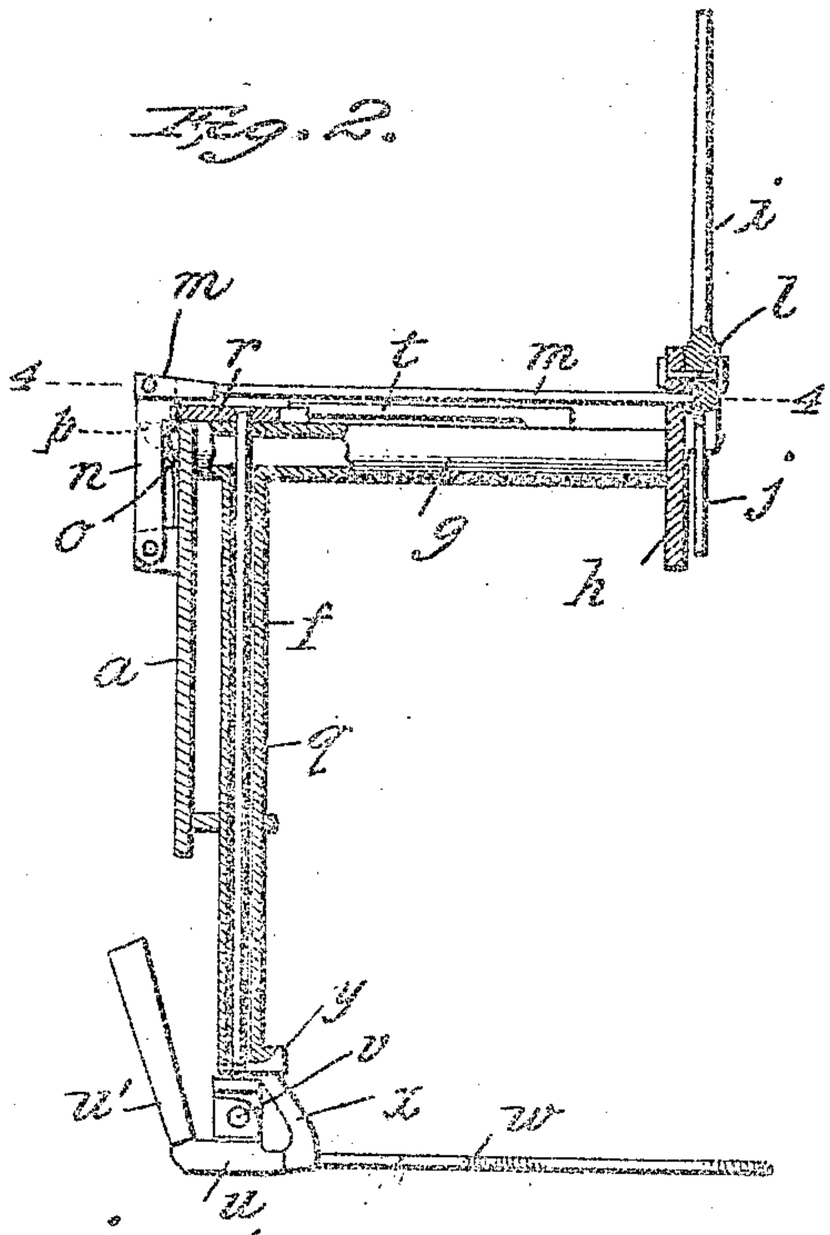


Fig. 3.

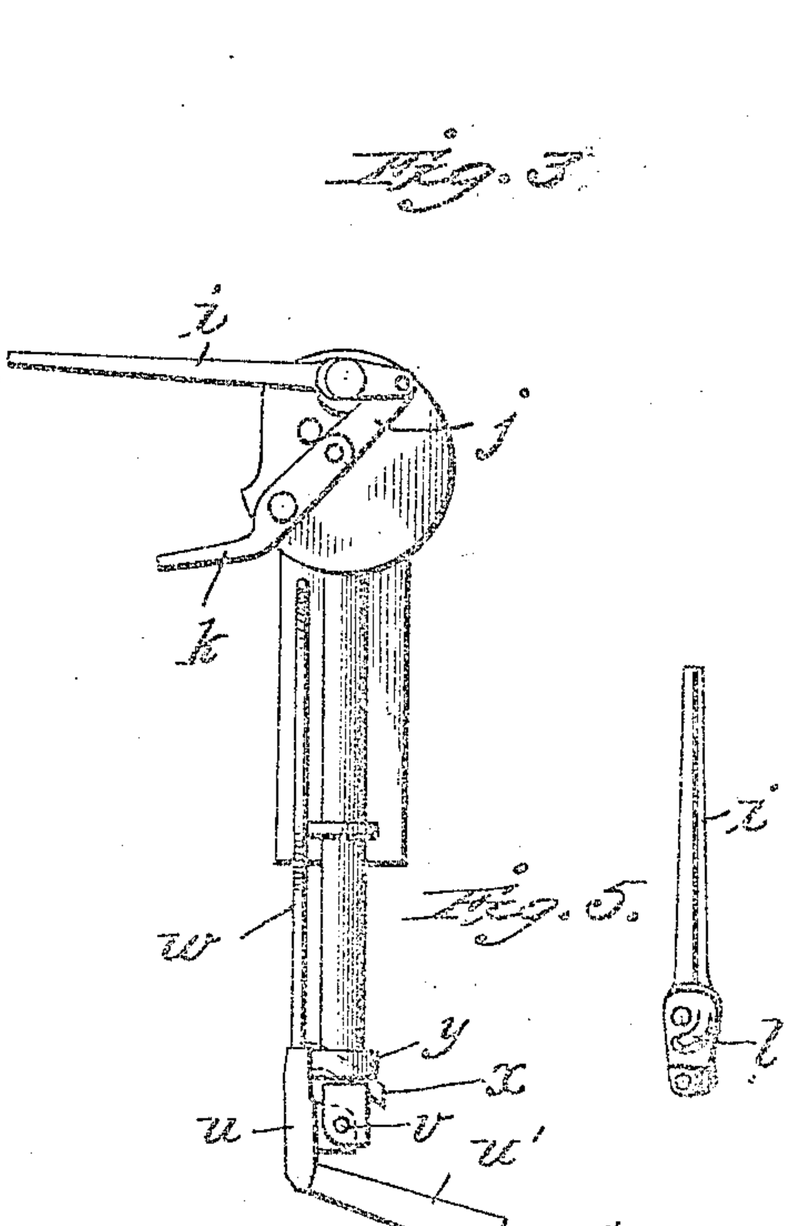


Fig. 5.

Fig. 4.

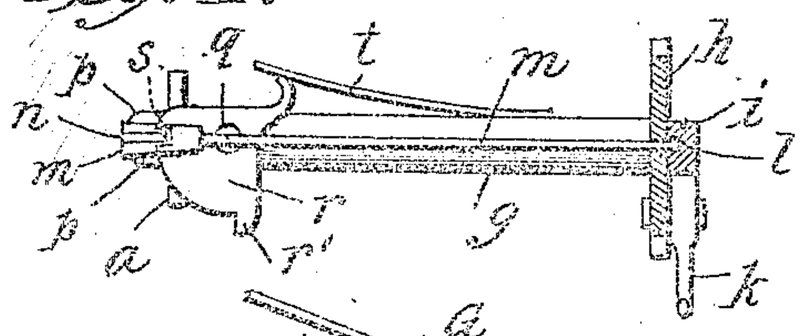


Fig. 7.

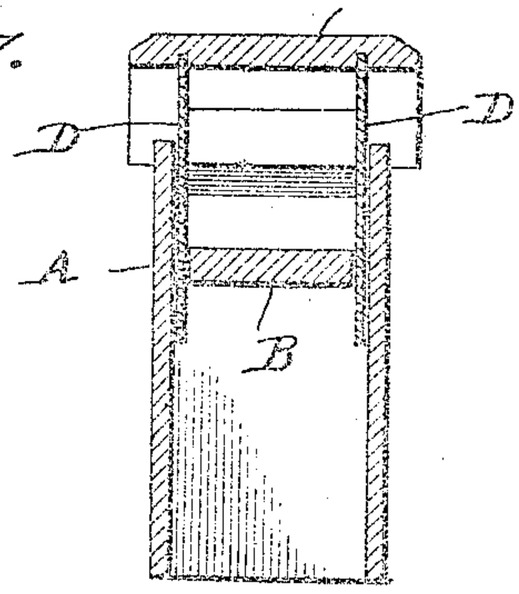
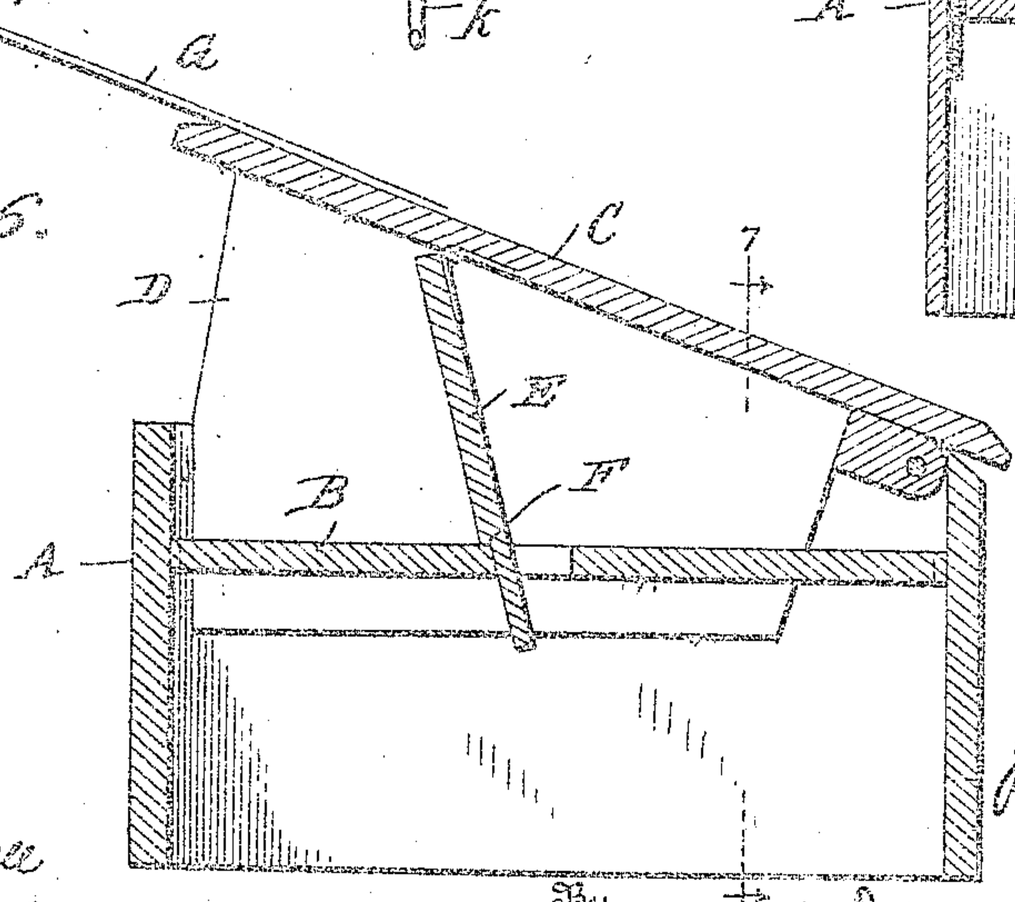


Fig. 6.



Witnesses:
Edwin L. Green
W. A. Bridgen

Inventor
J. F. Black
By Atwood Davis
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN F. BLACK, OF GREENSBURG, PENNSYLVANIA.

MAIL-BAG DELIVERER.

No. 884,310. Specification of Letters Patent. Patented April 7, 1908.

Application filed October 23, 1907. Serial No. 398,840.

To all whom it may concern:

Be it known that I, JOHN F. BLACK, a citizen of the United States of America, and resident of Greensburg, county of Westmoreland, State of Pennsylvania, have invented certain new and useful Improvements in Mail-Bag Deliverers, of which the following is a full and clear specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a portion of a postal car and the adjacent roadbed showing my apparatus in position for delivering a mail-bag. Fig. 2 is a view partly in vertical section and partly in side elevation of the delivering apparatus detached and ready for delivering a bag. Fig. 3 is a front elevation of the same showing the parts in the positions they assume just after the bag is delivered. Fig. 4 a plan view of Fig. 2 partly in section on the line 4—4 of Fig. 2. Fig. 5 is a detail view of the tripping lever. Fig. 6 is a vertical longitudinal section of the receiving receptacle on the roadbed, the cover being lifted to position for receiving the delivered bag. Fig. 7 is a vertical section on the line 7—7 of Fig. 6.

The object of this invention is to provide simple and practical means for delivering mail-bags from a rapidly moving train to the stations along the road. It also has for its object to provide a simple and practical bag-receiving receptacle adapted to be sunken into the roadbed adjacent to the track and to automatically close upon the reception of the delivered bag.

Referring to the drawings by reference characters, *a* designates a standard upon which the working parts of the delivering device are mounted, this standard being removably mounted in a suitable keeper *b* fastened to the edge of the car floor coincident with the door of the car. Pivotally connected to the upper end of the standard is a lever composed of a pair of arms *c c* and a handle portion *d*, the parts *d* and *c* being arranged at right angles to each other and being pivoted at their juncture to a suitable plate *e* fastened rotatably upon the floor of the car midway the width of the car. By means of this right angle lever arrangement the delivering apparatus may be let down into the keeper in position for action and may be hoisted up out of the keeper and swung back into the car, the standard *a* always remaining in a vertical position by reason of its pivotal connection to the arms *c c*. By rotatably mounting the lifting apparatus on the floor at *e'* the apparatus may be swung around to a convenient position within the car and may also be projected out through the opposite door of the car to deliver mail-bags at that side of the car, a duplicate of the keeper being fastened on the opposite edge of the car door.

Attached to the face of the standard *a* is a vertical stationary tube *f* and projecting from the upper ends of the standard and said tube is another rigid tube or bar *g*, and mounted rigidly on the outer end of this bar *g* is a vertical plate or disk *h*. Pivotally mounted on the face of the plate *h* is a trip lever *i* adapted to swing in a vertical plane and connected at its lower end by a link *j* to a rearwardly pointing hook *k* pivotally mounted on the face of the plate *h* at a point above the pivot of the lever *i*.

Concentric with the pivot of the lever *i* on its inner side is a cam groove *l* into which, through a hole in the plate *h*, extends a rod *m* which extends along above and parallel with the bar *g* and is pivotally connected at its inner end with a vertical pawl *n*, this pawl being pivoted at its lower end to an ear on the back of the standard *a* and being pressed outwardly, that is, toward the plate *h* by means of a spring *o*, this pawl being confined and guided by means of a pair of lugs *p* on the back of plate *a*.

Extending upward through the tube *f* is a shaft *q* upon the upper end of which is mounted a cam *r* which is provided with a notch *s* in its curved inner edge for the reception of the pawl *n* when the apparatus is set for delivering the bag. A spring *t* normally tends to throw this cam and its shaft backwardly. Attached to the lower end of shaft *q* at a point below the lower end of tube *f* is a weighted arm *u* which is pivoted to shaft *q* on a transverse horizontal pivot *v*. Carried at one end of this arm *u* is an upstanding weight *u'* and at its other end is a curved arm or rod *w* which is so located with reference to the hook *k* that when a bag is hung on said hook this arm *w* will form a rest or stop for the lower end of the suspended bag, as shown in Fig. 1. On the arm *u* is formed an upwardly extending stop *x* which by reason of the weight *u'* normally bears upwardly against the under side of a flange *y* carried rigidly on the lower end of tube *f*, this flange being

semi-circular in shape, the straight edge thereof facing inwardly toward the standard *a*.

In the roadbed adjacent to the track is sunken a box A provided with a bottom B near its upper edge. Pivoted at the rear end of this box is a cover C provided with depending wings D which work down through slots in the bottom B. Hinged to the under side of the cover C, about midway its length, is a prop E, which works through a hole in the bottom B and is notched at F to enable it to rest upon the front edge of the hole in the bottom and thus prop up the cover. Fastened to the top of the cover and projecting forwardly therefrom is a bar G whose forward end is angularly turned so as to be struck by a trip lever *i* as the train passes. It will be observed that the prop E tends to swing forwardly when the cover is raised so as to automatically prop the cover in its raised position. When the mail-bag is delivered into the open front of the receptacle it strikes the prop E and thus permits the cover to drop into place over the box thereby confining and protecting the bag against the weather until the local agent removes the same.

I prefer hanging the bag on the hook *k* by means of a short piece of rope having a ring at its upper edge to engage over the hook and a snap hook at its lower end to engage the ring or strap on the bag. When the apparatus is set for delivering the bag it will be observed that the lever *i* stands upwardly in position to be struck by bar G and the cam *r* is locked by pawl *n* in such position as to hold the steadying arm *w* in its extended position so that the bag will rest against it. As soon as lever *i* is tripped backwardly the cam groove *l* and rod *m* release pawl *n* from cam *r*, thus permitting the spring *t* to swing cam *r* and its shaft around backwardly a quarter turn, when the projection *r'* on cam *r* will strike against the pawl *n* and will stop the further movement of the cam and its shaft. The rotation of shaft *q* carries the bag rest *w* backwardly out of the way of the bag, and after the shaft is turned about a quarter turn the stop *x* passes off the inner straight edge of cam *y* and thus permits the weight *u'* to swing downwardly as shown in Fig. 3, and this action swings the steadying arm upwardly back of the tubular standard *f* where it will be out of the way.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent is:—

1. In an apparatus of the class set forth, a car, a lifting device mounted rotatably on a vertical pivot in the center of the floor thereof mid-way between the two side doors, and a mail-bag delivering apparatus carried by said lifting device and adapted to be projected out through either door of the car.

2. The combination with a car having opposite side doors, of a keeper at the sill of each door, a mail-bag delivering device adapted to slide upwardly or downwardly in either one of these keepers, and a shiftable lifting and lowering device connected to the delivering device and mounted on the floor of the car at a point between the two doors thereof.

3. In combination with a car having a keeper secured to its door sill, a mail-bag delivering device adapted to be lowered into said keeper and to be raised out of the same, and means mounted on the floor of the car for raising and lowering said delivering device and drawing it back into the car.

4. The roadbed receiving-receptacle for mail-bags consisting of a box, a cover pivoted at its rear end and adapted to swing upwardly, a prop pivotally attached to the cover and depending into the box, a support for this prop at its lower end, this prop being located in the path of the delivered bag whereby the injection of the bag will dislodge the prop and permit the cover to close.

5. A mail-bag receiving receptacle comprising a box, a cover therefor, means for propping up the cover, said means being located within the box in the path of the incoming bag, whereby the movement of the delivered bag after it enters the receptacle will close the door thereof.

6. In a mail-bag delivering apparatus, a frame, a suspending hook and means for tripping the same, a steadying arm and means for automatically swinging the same back out of the way when the tripping device is operated.

7. In a mail-bag delivering apparatus, the combination of a frame, a suspending hook and a trip device therefor, a steadying arm mounted upon a vertical pivot below the suspending hook, means for normally swinging this steadying arm backwardly out of the way, and means for automatically releasing said means upon the release of the bag.

8. In an apparatus of the class set forth, the combination of a frame, a suspending hook and means for tripping the same, a weighted pivoted steadying arm adapted to engage behind the bag, and means for automatically swinging the steadying arm backwardly and releasing it when the bag is tripped from its suspending hook, whereby the steadying arm will swing upwardly out of the way.

9. In an apparatus of the class set forth, the combination of a frame, a suspending hook and means for tripping it, a vertical shaft carrying on a transverse pivot at its lower end a steadying arm, this arm being provided with a weight normally tending to swing it upwardly, means for holding the arm horizontally, a cam and spring tending to normally swing the arm backwardly, and

means for releasing the cam when the suspending hook is tripped.

10. In an apparatus of the class set forth, a car having opposite side-door-ways, a base plate mounted to rotate on a vertical pivot in the car floor between the two doorways, a lifting device mounted to oscillate on a horizontal pivot carried by this plate so as to adapt it to be projected out through either doorway, and a mail-bag-holding device carried by the projected end of said lifting device.

In testimony whereof I hereunto affix my signature in the presence of two witnesses this 21 day of Oct., 1907.

JOHN F. BLACK.

Witnesses:
WILLIAM R. SLIFER,
EDWIN F. CRAWFORD.