G. J. MEIER.

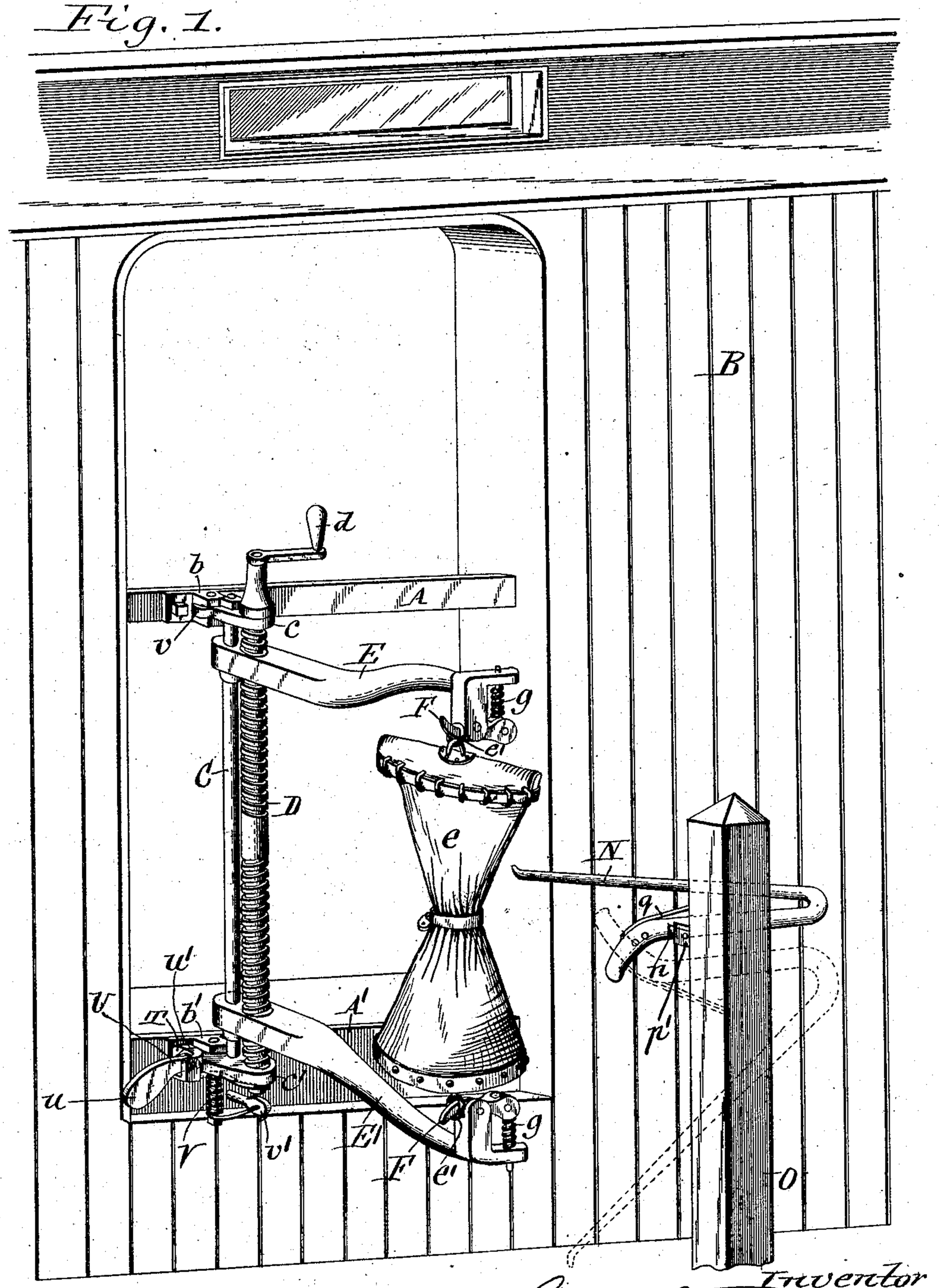
MAIL BAG CATCHER OR TRANSFERRER.

APPLICATION FILED FEB. 24, 1909.

919,911. Patented Apr. 27, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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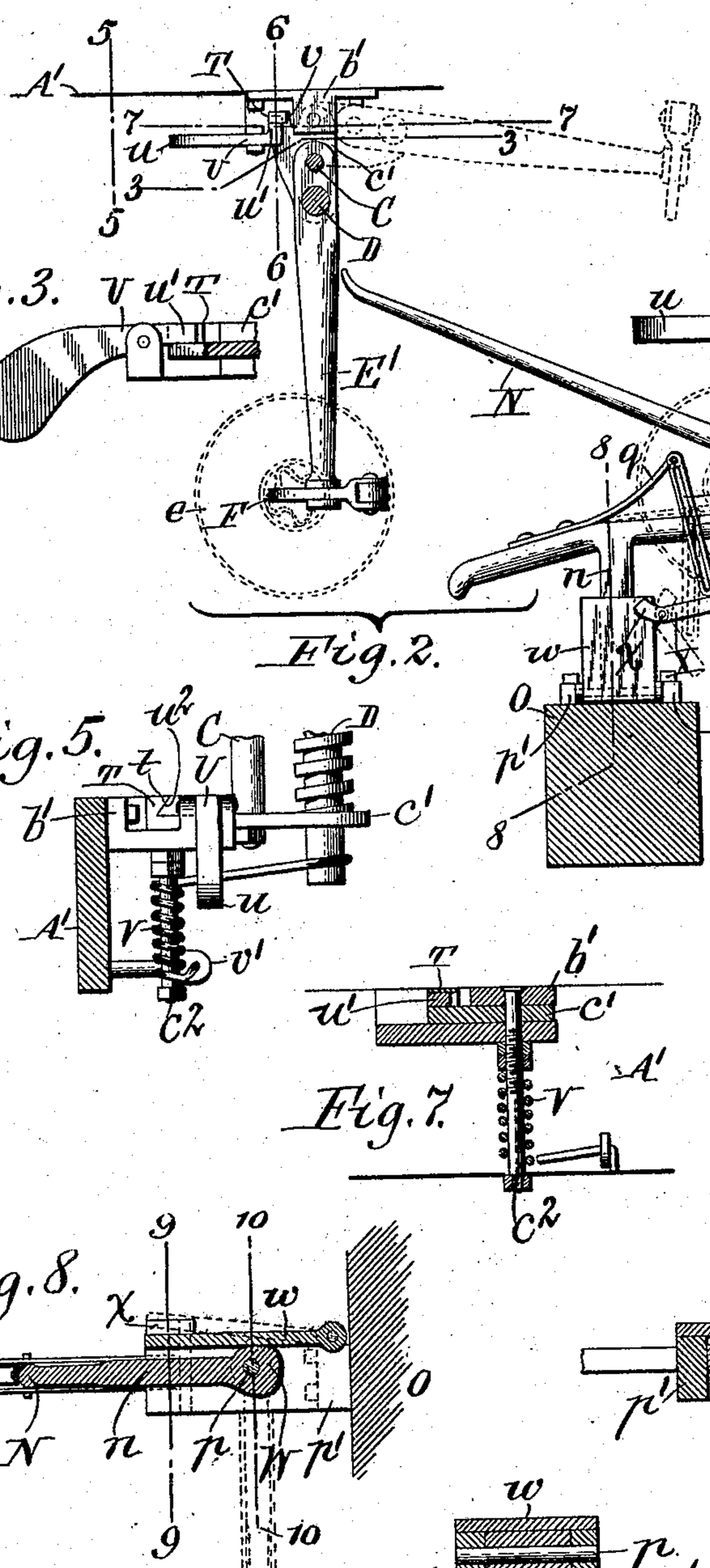
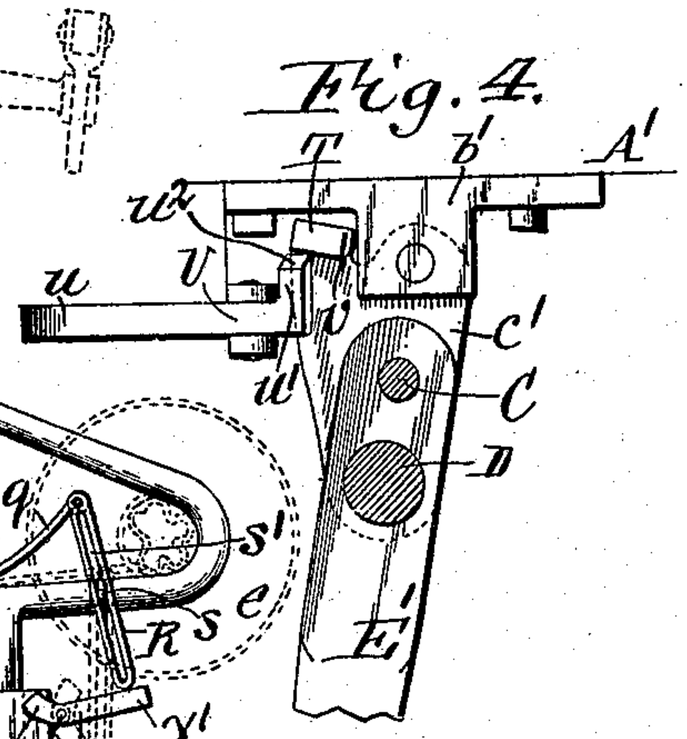


Fig. 2.



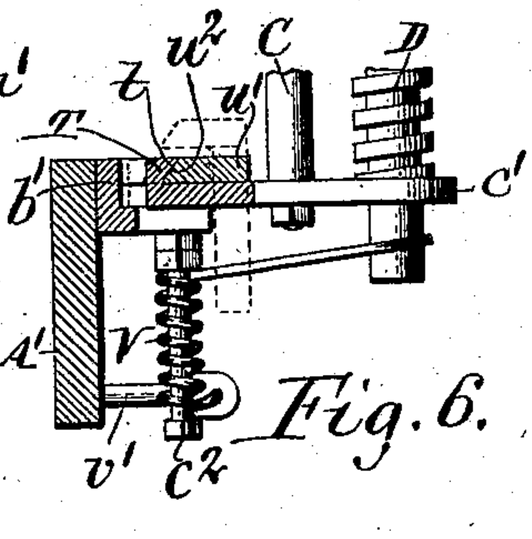


Fig. 6.

Fig. 7.

Fig. 8.

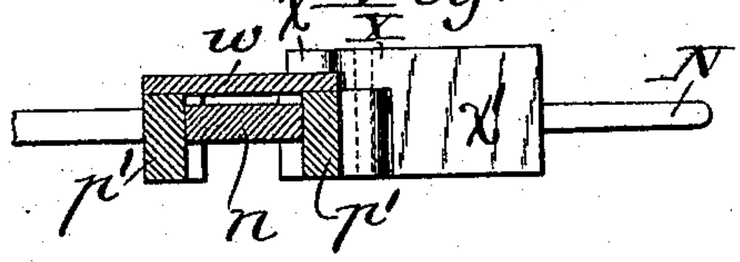


Fig. 9.

Fig. 10.

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UNITED STATES PATENT OFFICE.

GEORGE J. MEIER, OF BUFFALO, NEW YORK.

MAIL-BAG CATCHER OR TRANSFERRER.

No. 919,911. Specification of Letters Patent. Patented April 27, 1909.

Application filed February 24, 1909. Serial No. 479,780.

To all whom it may concern:

Be it known that I, GEORGE J. MEIER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Mail-Bag Catchers or Transferrers, of which the following is a specification.

This invention relates to a mail bag catching and delivering apparatus of the general character shown in Letters Patent of the United States granted to me May 5, 1908, No. 886,832.

The object of the present invention is to provide simple, durable and efficient means whereby the delivery arms and the receiving hook are normally held in position for delivering and receiving a mail bag and after such transfer of the bag has been effected the arms and hook will be retracted so as to avoid injuring persons on the car or adjacent to the track which sometimes occurs by the use of mail bag transferring devices in which the delivery arm projects from the side of the car and the receiving hook projects toward the car track after the transfer of the mail bag from the former to the latter has been effected.

In the accompanying drawings consisting of two sheets: Figure 1 is a fragmentary perspective view of a mail car and mail crane provided with my improvements. Fig. 2 is a horizontal section of the bag delivering and receiving devices, showing the parts in their normal position. Fig. 3 is a vertical section, on an enlarged scale, in line 3—3, Fig. 2. Fig. 4 is a fragmentary horizontal section, on an enlarged scale, of the lower bag delivery arm and its supporting bracket showing the arm and its retaining catch in the position which they occupy when the bag on the arm strikes the receiving hook. Figs. 5 and 6 are fragmentary vertical transverse sections, on an enlarged scale, in lines 5—5 and 6—6, Fig. 2, respectively. Fig. 7 is a fragmentary vertical longitudinal section, on an enlarged scale, in line 7—7, Fig. 3. Fig. 8 is a fragmentary vertical transverse section, on an enlarged scale, in line 8—8, Fig. 2. Figs. 9 and 10 are vertical longitudinal sections in the correspondingly numbered lines in Fig. 8.

Similar characters of reference indicate corresponding parts throughout the several views.

The means for transferring a mail bag from the car to the station are substantially the same as the means for transferring a bag from the station to the car but in the following description and the accompanying drawings only the means for transferring the bag from the car to the station are disclosed, but it is to be understood that the same also applies to the means for transferring a mail bag from the station to the car.

As shown in Fig. 1, the car B is provided with upper and lower cross pieces A, A^1 which extend across its door opening and which are provided near one side of the door opening with outwardly projecting upper and lower lugs b, b^1, respectively. Pivoted to these lugs is a pair of horizontally swinging upper and lower brackets c, c^1 which are connected by rigid upright guide rods C. In the outer ends of these brackets an upright right and left hand screw D is journaled which is held against endwise movement in the brackets and provided at its upper end with a crank or handle d for turning the screw.

E, E^1 represent a pair of arms which support the mail bag e in position for delivering the same to the mail station. These delivery arms are slidably mounted at their inner ends on the guide rod C and are provided in front of the latter with threaded openings which receive the right and left thread of the screw D, so that upon turning the latter in one or the other direction, the delivery arms are caused to approach or to recede from each other and adapt them to the length of the bag which is to be supported. At their outer ends, the delivery arms are provided with catches F which are adapted to engage eyes or loops e^1 at the upper and lower ends of the mail bag or pouch and which preferably consist of vertically swinging levers pivoted on the arms E, E^1 and yieldingly held in engagement with the eyes of the bag by springs g. The swing brackets permit the bag delivery arms to be unfolded or projected laterally into their operative position from the side of the car, as shown by full lines in Figs. 1 and 2, or to be folded or retracted in its inoperative position parallel with the side of the car, as shown by dotted lines in Fig. 2.

N represents the bag catching or receiving hook of the mail crane which is supported on a post or standard o adjacent to the railway track at the station and which is arranged with its mouth facing the bag to be engaged, so that the same enters the bight of the hook and is held thereby in a well known manner.

The receiving hook is hinged to swing vertically on the post *o* by a horizontal pin or pivot *p* passing through an arm *n* on the inner end of the hook and the two sections p^1 of a bracket which project from the post on opposite sides of the inner end of the hook, whereby the latter may be swung upwardly into its horizontal operative position for receiving a bag, as shown by full lines in Figs. 1, 2 and 8, or dropped into a vertical or pendent position when not required for use, as shown by dotted lines in Figs. 1 and 8.

An oblique detent spring *q* extends across the mouth of the hook for retaining the mail bag therein. This spring is secured at its inner front end to the inner end of the hook and to the outer rear end of this spring is pivoted a double detent link R which normally extends across the mouth of the hook, so as to retain the contracted waist of the mail bag in the bight of the hook and which is guided on the inner end of the hook by means of pins *s* on the latter engaging with longitudinal slots s^1 in the members of the link.

All of the mechanism above described is substantially the same as that in Letters Patent referred to. In the mechanism of this prior patent the bag delivery arms and the receiving hooks remained in their normal operative or projecting position until retracted by an attendant which endangered persons standing adjacent to the moving mail car and also persons riding on the latter. For the purpose of causing the delivery arms and the receiving hook to be automatically retracted after the mail bag has been transferred from the former to the latter, the following means are provided:—T represents a jaw or shoulder arranged on one of the brackets of the delivery mechanism, preferably the lower one, at a point in rear of its pivot and having its face undercut or beveled from its upper side inwardly toward its lower side, as shown at *t* in Figs. 1, 5 and 6. U represents a vertically swinging catch or detent pivoted on the lower lug b^1 and having a weighted rear arm *u* while its front arm u^1 is provided with a beveled face u^2 which is adapted to engage with the undercut beveled face *t* of the bracket c^1, when the delivery brackets and their bag supporting arms are swung out into their operative position, as shown in Figs. 1, 2, 3, 5, 6 and 7.

When it is desired to use the bag delivery arms the same are swung outwardly into their operative position until the jaw T is behind the front arm of the catch U after which the latter is turned, so that said arm is in the path of the jaw and is engaged with the same upon moving the lower bracket c^1 and connecting part inwardly for this purpose. The jaw T is held in engagement with the front arm of the catch by means of a spring V which tends constantly to turn the brackets and the parts connected therewith inwardly or into their retracted position. This spring is preferably wound around the depending pivot pin c^2 of the lower lug c^1 and bears at its opposite ends against a stationary part such as a pin v^1 on the car body and a part moving with the lower bracket c^1 such as the lower end of the adjusting screw. The parts of the delivery device remain in this position and hold the mail bag at the side of the car so long as the pressure exerted against the mail bag and its support is not sufficiently great to overcome the tension of the spring V. When the mail bag is caught by the mail hook the impact against the bag support of the delivery device causes the lower bracket b^1 to be first turned outwardly to a sufficient extent against the tension of the spring V to cause the jaw T to be carried beyond the front arm of the catch U. The instant this occurs the catch U owing to the preponderating weight of its tail or rear arm causes the front arm thereof to be automatically raised out of the path of the jaw T, so that as the spring V recovers itself, it is no longer restrained but is free to turn the upper and lower brackets *c*, c^1 and delivery arms E, E^1 from their projected position inwardly to their retracted position along the side of the car, whereby the same will not hit persons standing adjacent to the track when not in use. The outward movement of the brackets *c*, c^1 and the parts carried thereby under the impact of the blow of the hook against the mail bag is preferably limited by means of stops *v* formed on these brackets and engaging with the rear sides of the lugs *b*, b^1.

The preferred means for causing the bag receiving hook to be held horizontally in its operative position preparatory to receiving the bag and to be released so that it can drop into a vertical position when a bag enters the mouth of the hook, is constructed as follows: W represents a cam shaped heel or extension arranged on the arm of the receiving hook in rear of its pivot. *w* represents a vertically swinging latch which is pivoted at its rear or inner end on the support of the hook and adapted to engage with the upper side of the heel of the hook arm for holding the latter in its horizontal operative position. The latch is held in this position by means of a horizontally swinging lock or lever X which is pivoted on the support of the hook arm and is provided with a front arm or nose *x* which is adapted to engage with the top of the latch, as shown in Figs. 2 and 9, and also is provided with a rear arm x^1 which is adapted to be engaged by the rear end of the double link R. The latter and the detent spring *q* operate as a trip mechanism which controls the dropping of the bag receiving hook. As a bag enters the mouth of the bag receiving hook and deflects the spring *q* and link R the latter by pushing against the rear arm of the locking lever causes the front arm of the

same to be disengaged from the top of the latch. The instant this occurs the heel of the hook arm which is pressing constantly upward against the latch now lifts the same and the hook together with the mail bag in the same drop by their weight into their lowered position.

The means for holding the bag delivery arms and the bag receiving hook in their operative position are very strong and durable and hold the parts reliably in place while at the same time permitting of retracting the delivery arms and receiving hook promptly and with certainty after the transfer of the mail bag has been effected, so that the liability of striking persons on the car or adjacent to the track is avoided.

I claim as my invention:

1. A mail transferring device comprising a horizontally swinging bag support having a shoulder, with an undercut face, means operating to swing said support inwardly, and a catch or detent adapted to be engaged by the undercut face of said shoulder for arresting the inward movement of said support and to be automatically released from said shoulder when the support is moved outwardly by an impact against the mail bag.

2. A mail transferring device comprising a horizontally swinging bag support having a shoulder with a beveled undercut face, means operating to swing said support inwardly, and a catch or detent adapted to be engaged by the undercut face of said shoulder for arresting the inward movement of said support and to be automatically released from said shoulder when the support is moved outwardly by an impact against the mail bag.

3. A mail transferring device comprising a horizontally swinging bag support having a shoulder with an undercut face, means operating to swing said support inwardly, and a pivoted catch having a front arm adapted to engage said undercut face for holding the support in its outer position, and a weighted rear arm which causes said catch to be automatically turned for moving its front arm out of the path of said shoulder when the latter is moved outwardly by an impact against the bag carried by said support.

4. A mail transferring device comprising a horizontally swinging bag support having a shoulder, with an undercut face, means operating to swing said support inwardly, consisting of a spring engaging with said support and a catch or detent adapted to be engaged by the undercut face of said shoulder for arresting the inward movement of said support and to be automatically released from said shoulder when the support is moved outwardly by an impact against the mail bag.

5. A mail transferring device comprising a horizontally swinging bag support having a shoulder, with an undercut face, means operating to swing said support inwardly, consisting of a spring engaging with said support, and a pivoted catch having a front arm adapted to engage said undercut face for holding the support in its outer position, and a weighted rear arm which causes said catch to be automatically turned for moving its front arm out of the path of said shoulder when the latter is moved outwardly by an impact against the bag carried by said support.

6. A mail transferring device comprising a support, a bag receiving hook pivoted to swing vertically on said support, a latch for holding said hook in a horizontal position, and a trip mechanism which controls said latch and which is operated by a bag entering the mouth of said hook.

7. A mail transferring device comprising a support, a bag receiving hook pivoted to swing vertically on said support, a latch for holding said hook in a horizontal position, a lock for holding said latch in its operative position, and a trip device which actuates said lock for releasing said latch and which is operated by the entrance of a bag into the mouth of said hook.

8. A mail transferring device comprising a support, a bag receiving hook pivoted on said support to swing vertically and having a heel in rear of its pivot, a vertically swinging latch pivoted on said support and adapted to engage with said heel for holding said hook in its horizontal operative position, a horizontally swinging lock pivoted on said support and adapted to hold said latch in its operative position, and a trip device for controlling said lock which is actuated by the entrance of a mail bag unto the mouth of said hook.

9. A mail transferring device comprising a support, a bag receiving hook pivoted on said support to swing vertically and having a heel in rear of its pivot, a vertically swinging latch pivoted on said support and adapted to engage with the top of said heel for holding said hook in its operative position, a horizontally swinging lock pivoted on said support and having a front arm adapted to engage with the upper side of said latch and a rear arm, and a trip device for shifting said lock by the entrance of a bag into the mouth of said hook comprising a spring extending across the mouth of said hook and secured at one end to one side thereof, and a link guided on said hook and having one end pivotally connected with said spring while its other end is adapted to engage the rear arm of the lock.

Witness my hand this 19th day of February, 1909.

GEORGE J. MEIER.

Witnesses:
THEO. L. POPP,
E. M. GRAHAM.