

No. 731,180.

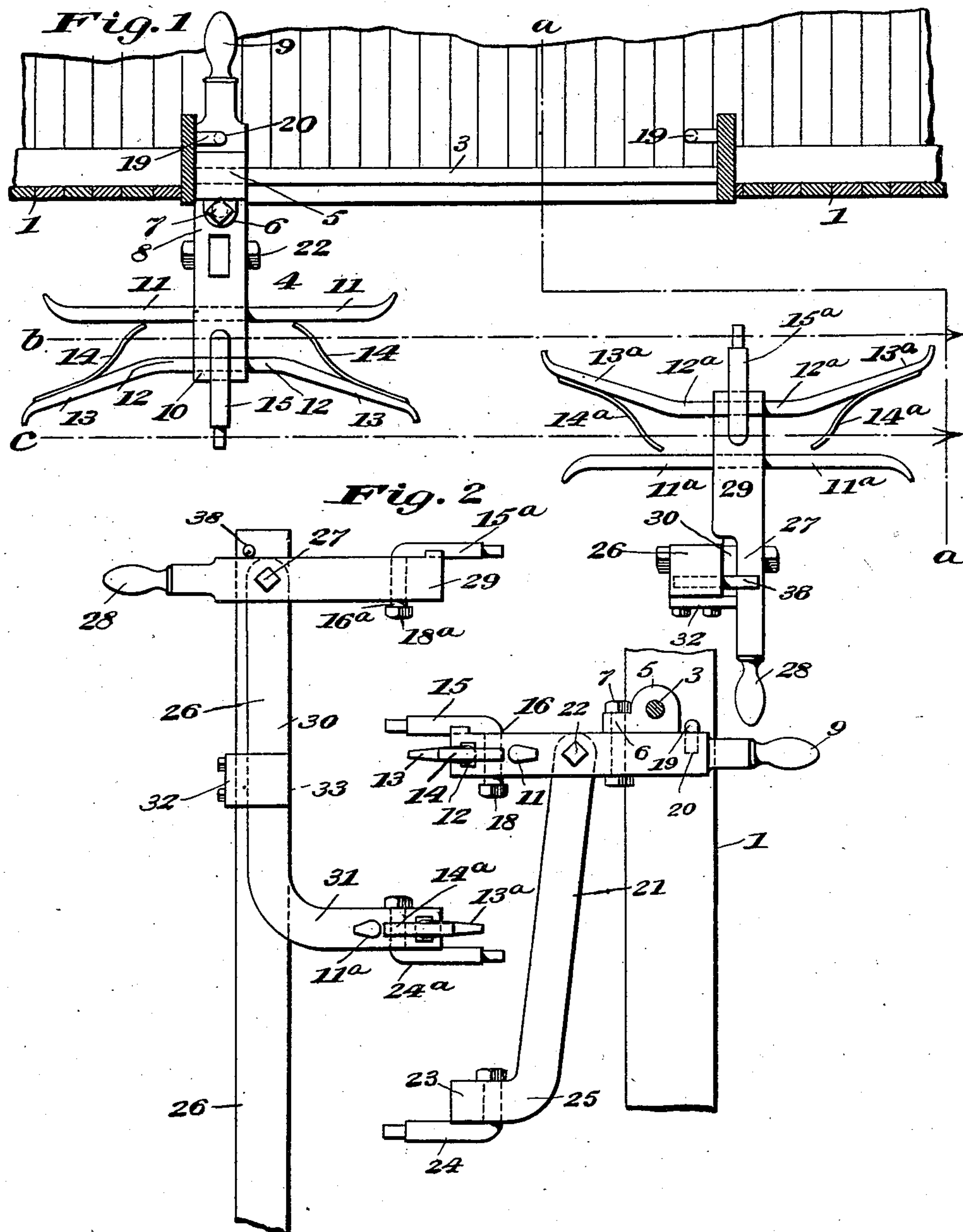
PATENTED JUNE 16, 1903.

C. R. HAWKINS.
MAIL BAG CATCHER AND DELIVERER.

APPLICATION FILED JUNE 9, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses

J. S. Horne

William Haschart

Inventor

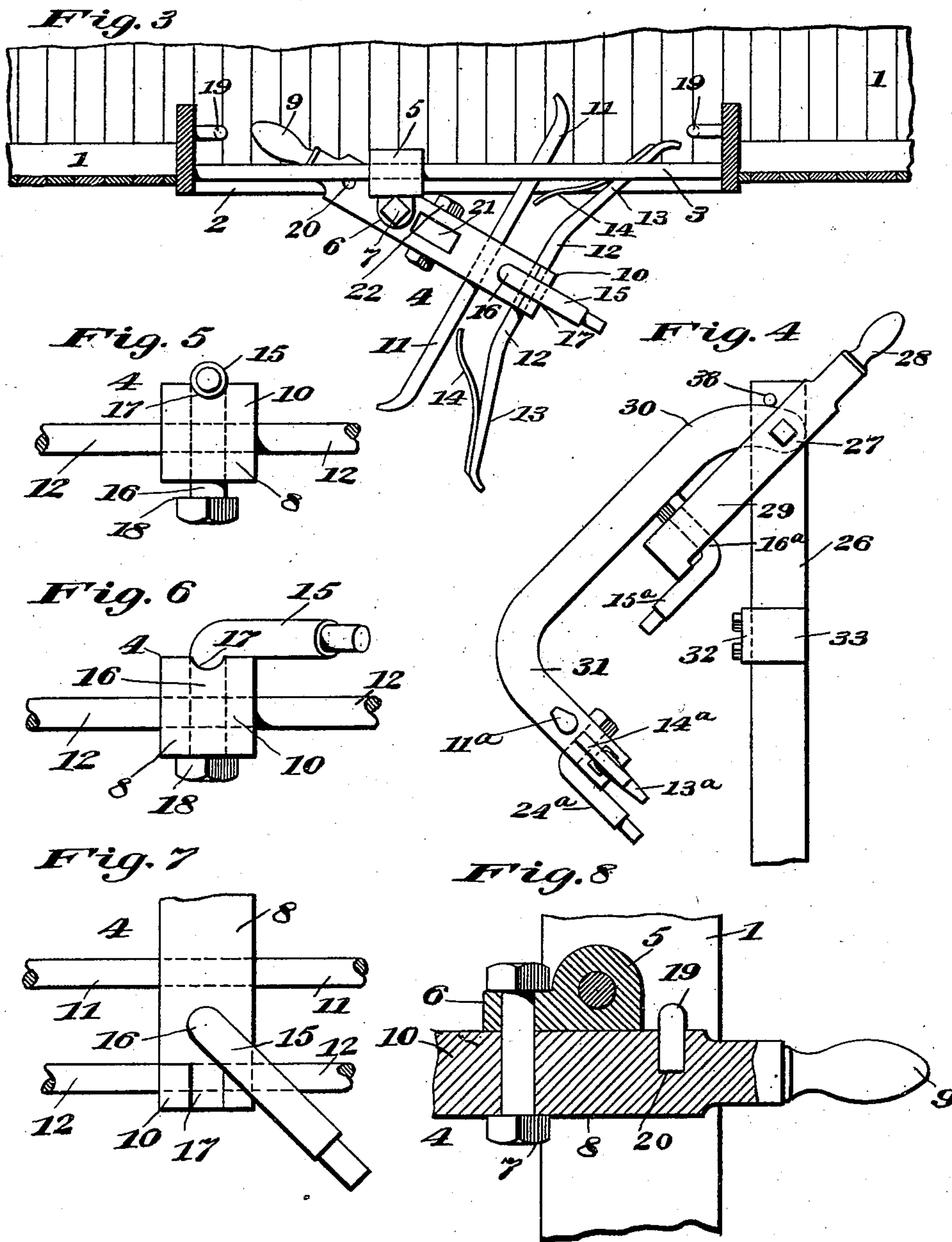
Charles R. Hawkins,
by John Elias Jones,
his attorney.

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UNITED STATES PATENT OFFICE.

CHARLES R. HAWKINS, OF CINCINNATI, OHIO.

MAIL-BAG CATCHER AND DELIVERER.

SPECIFICATION forming part of Letters Patent No. 731,180, dated June 16, 1903.

Application filed June 9, 1902. Serial No. 110,787. (No model.)

To all whom it may concern:

Be it known that I, CHARLES R. HAWKINS, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Mail-Bag Catchers and Deliverers, of which the following is a specification.

This invention relates to certain improvements in devices such as are designed for use upon railways for delivering mail sacks or pouches to and discharging them from moving trains; and the object of the invention is to provide a device of this character of a simple and inexpensive nature and of a strong and compact construction capable of ready operation for catching the mail sacks or pouches upon the moving trains or for delivering such sacks or pouches from moving trains at the several stations along the line of railway without requiring the stopping of the trains and without liability of injury to the sacks or pouches or to the employees engaged in the operation of the improved device.

The invention consists in certain novel features of the construction, combination, and arrangement of the several parts of the improved mail-sack delivering and discharging device whereby certain improved results are attained and the device is made simpler, cheaper, and is otherwise better adapted and made more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my improvements, Figure 1 is a plan view showing a portion of one side of a mail-car, together with a mail-bag crane, both car and crane being provided with the improved mail sack or pouch catching and discharging devices constructed in accordance with my invention. Fig. 2 is a sectional view taken through the side portion of the mail-car shown in Fig. 1, the mail-bag crane being shown in elevation and the plane of the section being indicated by the line *a a* in Fig. 1. Fig. 3 is a view showing in plan the portions of the side of the mail-car shown in Fig. 1, the improved mail-sack delivering and discharging devices being shown in a differ-

ent position from that in which they are shown in Fig. 1. Fig. 4 is a view showing the mail-bag crane with its improved catching and discharging devices moved to a position different from that shown in Fig. 1. Fig. 5 is an enlarged detail view showing a feature of construction of the improved catching and delivering device to be hereinafter referred to. Fig. 6 is a view similar to Fig. 5, but showing a different position of the parts. Fig. 7 is a plan view showing the parts seen in Figs. 5 and 6, the position of the parts being similar to that shown in Fig. 6. Fig. 8 is a sectional view taken in the direction of the length of the pivoted lever on the car and showing features of construction of the pivot-pin and detent device therefor.

In the views, 1 indicates a fragment of the side portion of a railway mail-car, and 2 indicates the side door thereof, at which the mail sacks or pouches are commonly received and delivered at the several stations along the line of railway.

3 indicates a metal bar extended across the door 2 from side to side thereof, and 4 indicates as a whole the improved catching and delivering devices carried upon the mail-car.

The improved catching and delivering devices for the mail-car 1 comprise a part or bracket 5, perforated for the passage of the bar 3 and adapted for sliding movement along said bar or rod horizontally across the door-opening of the car. The part or bracket 5 is also adapted for turning movement upon the bar or rod 3 and has a forward extension 6, through which is extended downward a pivot pin or bolt 7, on the lower end of which is held a lever 8, one end of which is adapted when the said lever stands in a horizontal position, as shown in Fig. 2, to extend into the car to form a handle, as indicated at 9, while the other end of said lever is extended outside of the car, as shown at 10 in the drawings. The outwardly-extended end 10 of the lever is provided with two sets or series of catching-arms adapted to catch or receive the mail sacks or pouches from the mail-bag crane when the car is moving in either direction, and said sets or series of arms are extended forwardly and rearwardly along the direction of the length of the car, as indicated in Fig. 1. Each set or series of arms comprises an

inner arm 11, preferably formed of a straight metal bar or rod of rounded form in cross-section, and an outer arm 12, also formed from a metal bar or rod of rounded cross-section, the extremity of which is bent outwardly, as shown at 13, away from the inner arm 11 and also away from the side of the car 1. The inner arms 11 of the two sets or series of catching-arms are preferably formed integrally, being formed of a single metal bar or rod, the central portion of which is passed through a transverse opening in the outer end 10 of lever 8, with end portions extended forward and rearward of the length of the car, which end portions form the inner catching-arms 11 11. The outer catching-arms 12 12 are also preferably formed of a single metal bar or rod, the central portion of which is passed through another transverse opening in the outer end 10 of lever 8, with its ends extended from said lever outside of the inner arms 11 to produce the outer arms 12 12. The central portion of the bar or rod of which the outer arms 12 are formed may be made squared to fit a squared opening in the lever 8, as indicated on the drawings.

To the outwardly-bent extremities 13 of the outer catching-arms 12 are secured stout leaf-springs 14 14, the free ends of which are bent away from the said arms 12 and toward the inner arms 11, so as to project a part or all of the distance between the outer and inner arms, as shown in Fig. 1, and said springs 14 are adapted to be engaged at their free ends by the mail sack or pouch when the catching-arms come in engagement therewith, whereby the said springs are flexed and bent up flush against the inner sides of the outer arms to permit the said mail pouch or sack to pass between the arms beyond the free ends of said springs and into the most contracted portion of the space between the arms. After the mail sack or pouch has thus passed the springs 14 their free ends are permitted to extend themselves again across the space between the outer and inner arms 11 and 12 in such a way as to engage outside of the mail-pouch and prevent the same from falling from between the catching-arms.

The outer extremity of the portion 10 of the lever 8 is provided with an outwardly-extended upper bag-support 15, having a reduced end portion adapted to receive upon it the upper ring of the mail sack or pouch to be delivered from the mail-car at a station on the line of the railway. The inner end of said upper bag-support is bent downward and is passed down through an opening in the end 10 of the lever, being free for turning movement in said opening, so as to swing pivotally in a horizontal plane from an outwardly-directed position, such as shown in Figs. 1, 3, and 5, to a laterally-directed or angular position, as shown in Figs. 6 and 7. The lower end of the downwardly-directed portion 16 of the upper bag-support 15 is provided with a head or enlargement 18, and in

order to permit of holding said support 15 in its outwardly-extended position, as shown in Figs. 1, 3, and 5, I provide the upper surface of the outer end 10 of lever 8 with a central notch 17, into which the under side of said support is adapted to engage when in its outwardly-extended position. When the support is engaged in said notch 17, its vertical portion 16 has its head 18 at some distance beneath the under side of the lever, so as to permit upward movement of said support relatively to the lever, so that when the outer end of the support beyond the lever is pushed sidewise the under side of the support may ride up out of the locking-notch 17 to a laterally-extended position, such as shown in Figs. 6 and 7.

At the sides of the door 2 in the mail-car 1 are arranged outwardly-extended catches or detents 19, the extremities of which are bent downward and are adapted for engagement in openings 20 in the handle portions 9 of the levers 8. By means of these catches or detents the mail-bag catching and delivering device may be securely locked against sliding movement and also against turning movement upon the horizontal bar 3 when in position adjacent to either the forward or rear side of the car-door 2, and is thus held in position with its outer end 10 extended horizontally from the side of the mail-car in position for catching and discharging mail-pouches. When the handle portion 9 of the lever 8 is pressed downward, the device may be disengaged from the catch or detent 19, with which it was before engaged, and may then be slid endwise along the bar or rod 3 or may be swung pivotally thereupon, so as to permit the device to be folded down outside of the car-door, whereupon it will project but little or not at all from the side of the car.

Upon the outer end 10 of the lever 8 is pivotally held a downwardly-extended arm 21, held by a pivot pin or bolt 22 and having its lower end bent outward, so as to stand out from the side of the mail-car, as shown at 23, and directly beneath the outer end of the portion 10 of said lever, and upon the said lower extremity 23 of the pivoted arm 21 is carried a lower bag-support 24, having a reduced outer end similarly to that of the upper support 15 and also formed with a vertical portion 25, which is passed through the portion 23 of the arm 21 and is thereby held for pivotal movement in a horizontal plane upon said arm, the extent of movement of said lower bag-support being similar to that of the upper support 15. The lower support 24 is adapted for engagement with a ring at the lower end of a mail sack or pouch in a well-known way.

The mail-bag cranes for use in connection with the improved catching and delivering devices upon the mail-car are also constructed by preference with catching-arms and upper and lower bag-supports similar to those employed in the devices upon the mail-car,

and the improved devices upon the cranes are also illustrated in the drawings, wherein 26 illustrates the upright post of the crane, having at its upper end a centrally-pivotal lever 27, one end, 28, of which is formed into a handle similar to the handle 9 of lever 8 on the car, and the other end, 29, of which is adapted when the devices upon the crane are in position for use, as shown in Fig. 2, to be extended outward horizontally from the post 26 and toward the side of the mail-car. The said outer end 29 of lever 27 carries an upper bag-support 15^a, constructed in a form and for operation similar to the upper support 15 upon the mail-car, with a downwardly-directed portion 16^a, passed down through an opening in the end 29 of the lever, and with a headed or enlarged lower end 18^a. The end 29 of the lever 27 is also constructed with a central locking-notch similar to that upon the end 10 of lever 8, and the upper bag-support 15^a upon the lever 27 is adapted to be held by said notch in an outwardly-extended position except when lateral pressure is brought to bear upon the outer free end of said support 15^a to swing it laterally in a horizontal plane. The pivot pin or bolt of the lever 27 also forms a fulcrum for a downwardly-extended pivoted arm 30, similar to the arm 21 upon the lever 8 on the mail-car, and the lower end of said downwardly-extended arm 30 is adapted to play closely adjacent to the side of the vertical post or upright 26 of the mail-bag crane, which post or upright has at one side a laterally-directed L-shaped bracket 32, one arm 33 of which is spaced away from the side of the post along which the arm 30 plays and is adapted to take against the outer side of said arm when the same is extended down alongside the post, as shown in Fig. 2, so as to form a brace and stay to prevent bending or breaking of the lower end of said arm 30. The lower end of arm 30 is also formed with a portion 31, bent or directed away from the side of the post 26 beneath the end 29 of lever 27 and toward the side of the mail-car running upon the railway, and the outer end of said portion 31 of the arm 30 carries a lower bag-support 24^a, similar to the lower support 24 upon the lower end portion 23 of the arm 21 upon lever 8 and also adapted, similarly to said support 24, for pivotal movement in a horizontal plane below its corresponding upper support 15^a. The lower bent portion 31 of arm 30 also carries catching-arms 11^a and 12^a, directed in opposite directions parallel with the direction of movement of the mail-car running upon the line of railway, and these arms are constructed and mounted in a manner similar to the arms 11 and 12 upon the mail-car, except that the inclined or bent end portions 13^a of the arms 12^a are directed toward the side of the mail-car, the arms 11^a being next adjacent to the post or upright 26. The arms 12^a are also provided with springs 14^a, similarly

to the springs 14 on arms 12, for holding the mail sacks or pouches when engaged between the catching-arms.

In the operation of the improved mail-sack catching and delivering device it will be understood that a mail sack or pouch may be suspended from the outer end 10 of the lever 8 upon the mail-car with its upper and lower rings engaged with the respective upper and lower bag-supports 15 and 24, so as to be in position for delivery at a station along the line of railway upon which the mail-car is running, the direction of movement of the mail-car being indicated by the dotted lines *b* and *c* in Fig. 1. Another mail sack or pouch may be similarly suspended between the upper and lower supports 15^a and 24^a upon the mail-bag crane at a station past which the mail-car moves and in position to be caught by the catching devices upon said car, the catching devices upon the mail-car being of course made to project far enough from the side of said car to stand in vertical alinement with the supports 15^a and 24^a on the crane and being adapted in the movement of the mail-car to traverse a path about midway between the said upper and lower bag-supports 15^a and 24^a on the crane, so as to be adapted to engage the central portion of a mail sack or pouch supported on said supports, the central portion of the suspended pouches or sacks being contracted for ready engagement between the catching-arms by means of a strap or band passed about the central part of the sack or pouch and properly secured in a well-known way. The catching-arms 11^a and 12^a upon the mail-bag crane are similarly made to project far enough from the post or upright 26 to stand in vertical alinement with the bag-supporting means 15 and 24 upon the mail-car, and in the movement of the car past the crane the upper and lower supports 15 and 24 are caused to pass, respectively, above and below the said catching-arms upon the crane, so that the catching-arms are adapted to engage also with the contracted central portion of the mail sack or pouch carried upon the supports 15 and 24 of the mail-car for delivery at the station at which the said crane is located. In order to facilitate the placing of the mail sacks or pouches upon the supports 15 and 24 of the mail-car, the lever 8 is adapted for pivotal movement upon its pin or bolt 7 with relation to the part 5, by which it is held for sliding and turning movement on the bar or rod 3, and when the handle 9 of said lever is depressed to disengage the detent 19 from the opening 20 in the lever the said part 5, carrying with it the lever 8, may be slid over along rod or bar 3 to a position such as indicated in Fig. 3, after which the lever 8 may be swung pivotally upon its connection with the part 5, so as to cause the outer end 10 of the lever to be swung over toward and into the door-opening of the car, as shown in said Fig. 3, whereupon the supports 15 and 24 will

be in convenient position for the application of the mail sack or pouch to be delivered from the car to said supports. While the mail sack or pouch is being attached to its supports upon the mail-car or upon the crane and after said sack or pouch has been thus attached the weight of the sack or pouch hanging upon the free end of the upper support will serve to hold said upper support with its under side engaged in the locking-notch, whereby it is held in position outwardly extended from the end of the part on which it is mounted. The weight of the lower hinged arm, upon which the lower bag-support is held, will also serve to hold said lower support engaged with the ring at the lower end of the mail sack or pouch, and the arm on which the lower support is carried being hinged will also permit ready application of the lower ring of the pouch over the free end of the lower support and will compensate for differences in length of the pouches. As the mail-car approaches the crane, moving, for example, in the direction of the arrows at the ends of the lines *b* and *c* in Fig. 1, the mail sacks or pouches being of course properly supported from the devices upon both the car and crane, the extremities of the forward catching-arms 11 and 12 upon the car will engage upon opposite sides of the contracted central portion of the sack or pouch on the crane, while the rearwardly-directed arms 11^a and 12^a on the crane will correspondingly engage the central portion of the sack or pouch on the car. Since the bent ends 13 of the outer arms 12 on the car are inclined outward from the side of the car, they will act on engagement with the pouch on the crane to first draw the pouch over toward the side of the car until said pouch has passed beyond the end of spring 14 and entered the contracted portion of the space between the arms 11 and 12, wherein it will be held by means of said spring. The bent ends 13^a of the arms 12^a on the crane will act in a similar but opposite way to draw the pouch on the car over toward the crane and away from the side of the car, and the springs 14^a on the crane will act to hold the said pouch in the contracted part of the space between said arms 11^a 12^a. As the car passes the crane the engagement of the catching-arms on the car with the pouch suspended between the supports on the crane will serve to swing said supports pivotally upon their vertical portions, whereby their free ends are caused to be extended in the direction of movement of the car, so that as the car moves onward the rings at the upper and lower ends of the pouch on the crane will be readily disengaged from said upper and lower supports. The supports upon the car will be similarly moved pivotally, so that the upper and lower rings of the pouch carried thereon and caught by the arms of the crane may be readily disengaged therefrom. As the upper supports 15 and 15^a on the car and crane, respectively, are

moved laterally in this manner their under sides will be disengaged from the corresponding locking-notches to permit free turning of the supports without undue strain either upon the parts or upon the suspending devices of the bags or pouches.

As stated above, the lever 27 on the crane is mounted for pivotal movement on the post or upright 26, and 38 indicates a pin adapted for engagement in an opening in the post or upright for holding said lever in a horizontal position, as shown in Figs. 1 and 2, so that a sack or pouch may be properly supported from the crane in position to be caught by the devices on a passing car. When not in use, the lever 27, together with the arm 30, may be thrown over pivotally upon the side of the post 26 opposite to the passing car, as shown in Fig. 4, and the pin 38 may be again inserted in its opening to hold the parts in this position, wherein they will be out of the way, so that persons upon passing trains will be in no danger of being struck thereby. When not in use also, the lever 8 on the car may be dropped down outside the car-door, and it will then project little, if any, beyond the side of the car and will not be a source of danger to persons along the line of railway or to passengers on other cars.

From the above description it will be obvious that the improved catching and delivering devices constructed according to my invention are of an extremely simple and inexpensive nature and are especially well adapted for use, since they permit of catching the pouches at stations and also of delivering the pouches from the moving trains without liability of damage to the pouches or of injury to the appliances or employees, and it will also be obvious from the above description that the improved catching and delivering devices are capable of some modification without material departure from the principles and spirit of the invention, and for this reason I do not wish to be understood as limiting myself to the precise form and arrangement of the several parts herein set forth.

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

1. In a device of the character described, the combination of a part mounted for movement parallel with the length of a car, and provided with a portion extended out from the side of the car, and two series or sets of catching-arms held on said extended portion, one set being forwardly and the other set being rearwardly directed along the length of the car, substantially as set forth.

2. In a device of the character described, the combination of a part mounted for movement parallel with the length of a car and provided with a portion extended out from the side of the car and two series or sets of catching-arms held on said extended portion, one set being forwardly and the other set be-

ing rearwardly directed along the length of the car and the outer arm of each set being inclined toward its extremity away from the side of the car, substantially as set forth.

5 3. In a device of the character described, the combination of a part mounted for movement parallel with the length of a car, a lever pivotally held on said part and adapted to be extended out from the side of the car, a detent
10 for holding said lever against pivotal movement and bag or pouch supporting devices on the lever, substantially as set forth.

15 4. In a device of the character described, the combination of a part adapted to be extended out from the side of a car and provided with a downwardly-directed arm the lower end of which is also extended out from the side of the car, an upper bag-support on the extremity of said part and a lower bag-
20 support on the extremity of said arm, substantially as set forth.

25 5. In a device of the character described, the combination of a part having an extended end portion and provided with a locking-notch and a bag-support pivotally held on said end portion and having its under side adapted for engagement with said locking-notch for holding said support extended parallel with

the length of said part, substantially as set forth.

6. In a device of the character described, the combination of a part having an extended end portion, inner and outer bag-catching arms held on said end portion and a spring held on one of the arms with a free end directed across the space between the arms in position for engagement with a pouch engaged between said arms, substantially as set forth.

7. In a device of the character described, the combination of a post or upright, a lever pivotally held thereon and provided with means for holding it in extended position, an upper bag-support on said lever, a pivoted arm mounted to play alongside the post and provided with a lower bag-support and catching-arms and a bracket on the post and spaced away from the same to engage the outer side of said arm, substantially as set forth.

Signed at Cincinnati, Ohio, this 3d day of June, 1902.

CHARLES R. HAWKINS.

Witnesses:

DANIEL J. HALEY,
MICHAEL MULLEN,
JOHN ELIAS JONES.