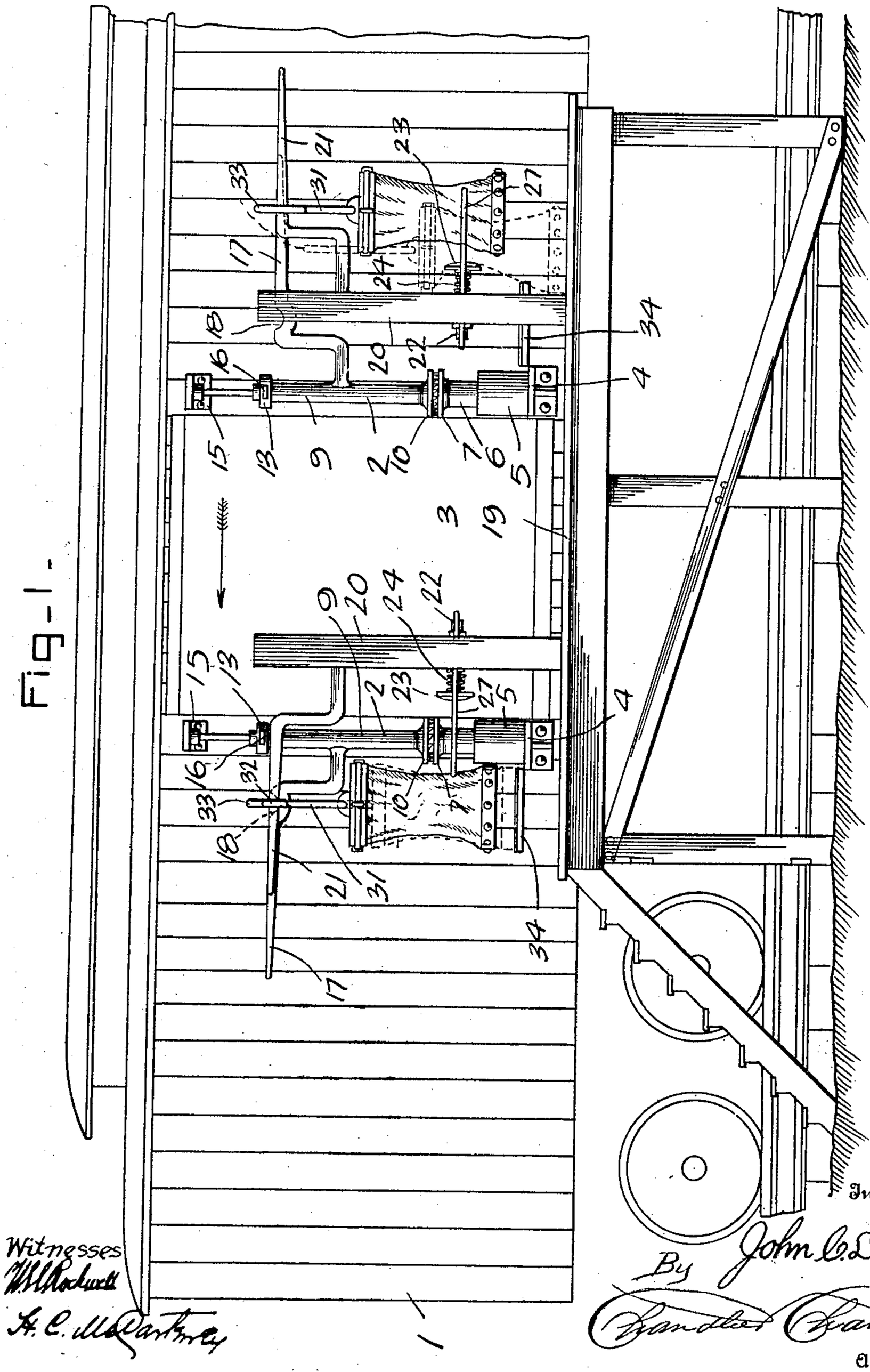
No. 882,237. PATENTED MAR. 17, 1908.

J. C. DAYTON.

MAIL BAG CATCHING AND DELIVERING APPARATUS.

APPLICATION FILED AUG. 8, 1907.

3 SHEETS—SHEET 1.



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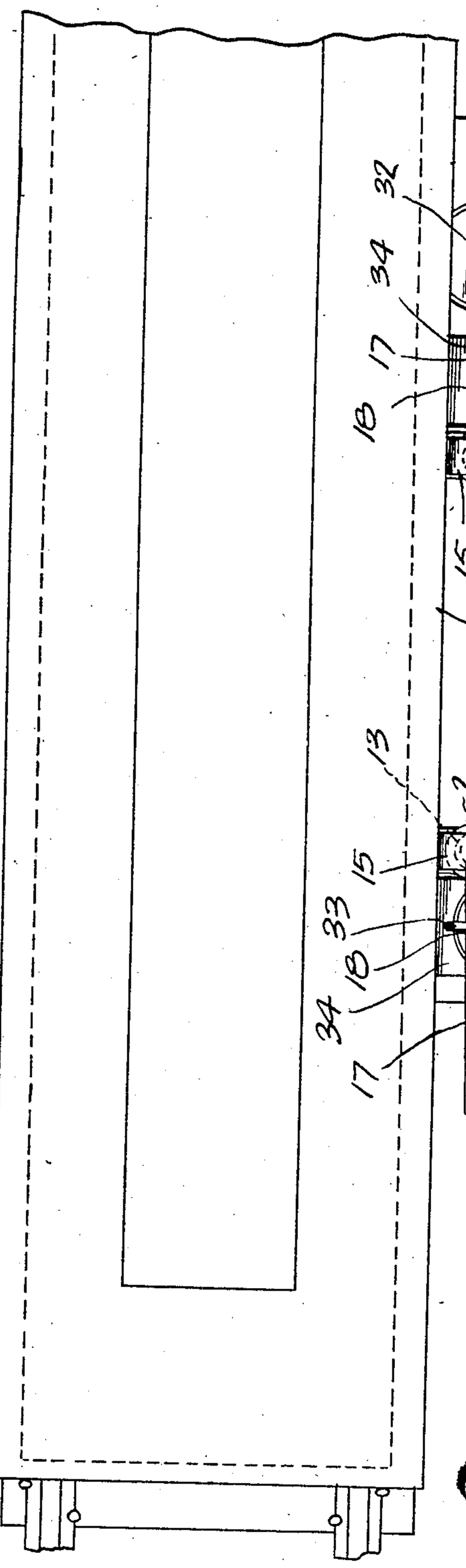
3 SHEETS—SHEET 2.

Fig. 2.



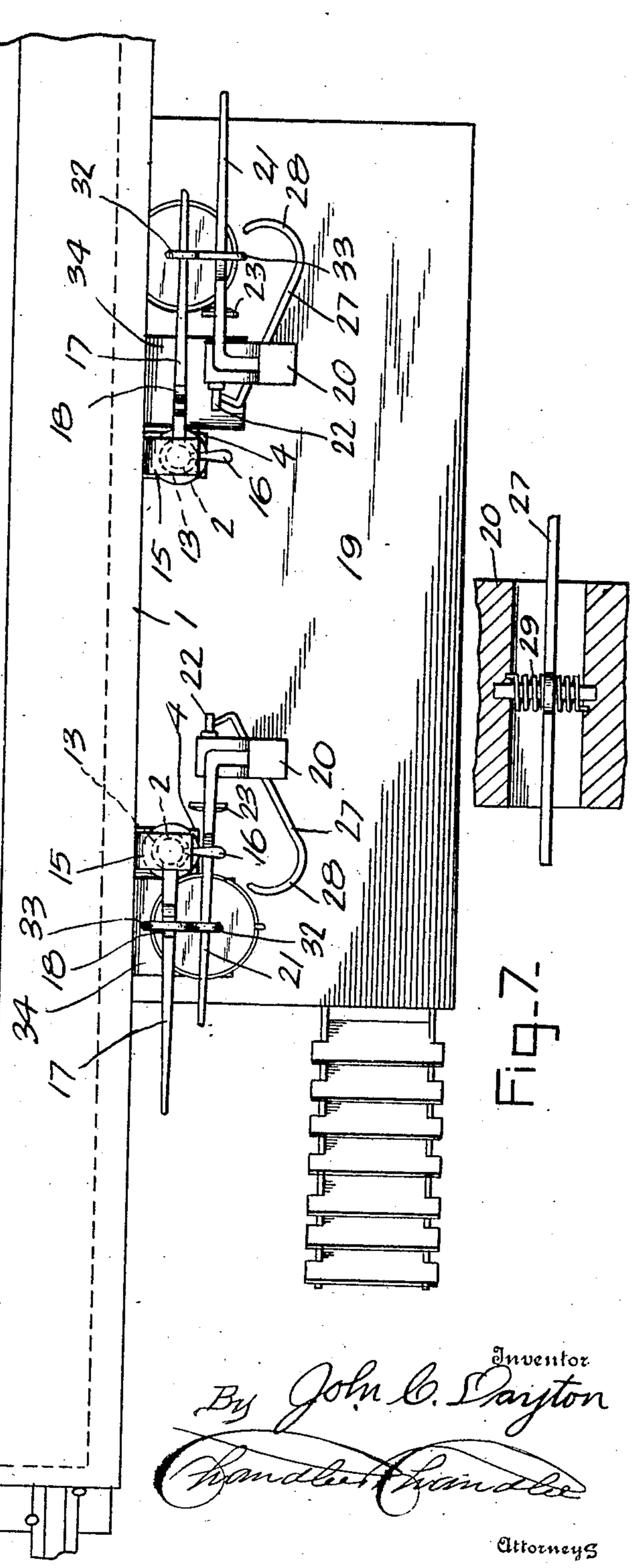


Fig. 7.

Witnesses
W. L. Prickett
H. C. McCartney

Inventor
By John C. Dayton
Chandlee & Chandlee
Attorneys

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3 SHEETS—SHEET 3.

Fig. 3.

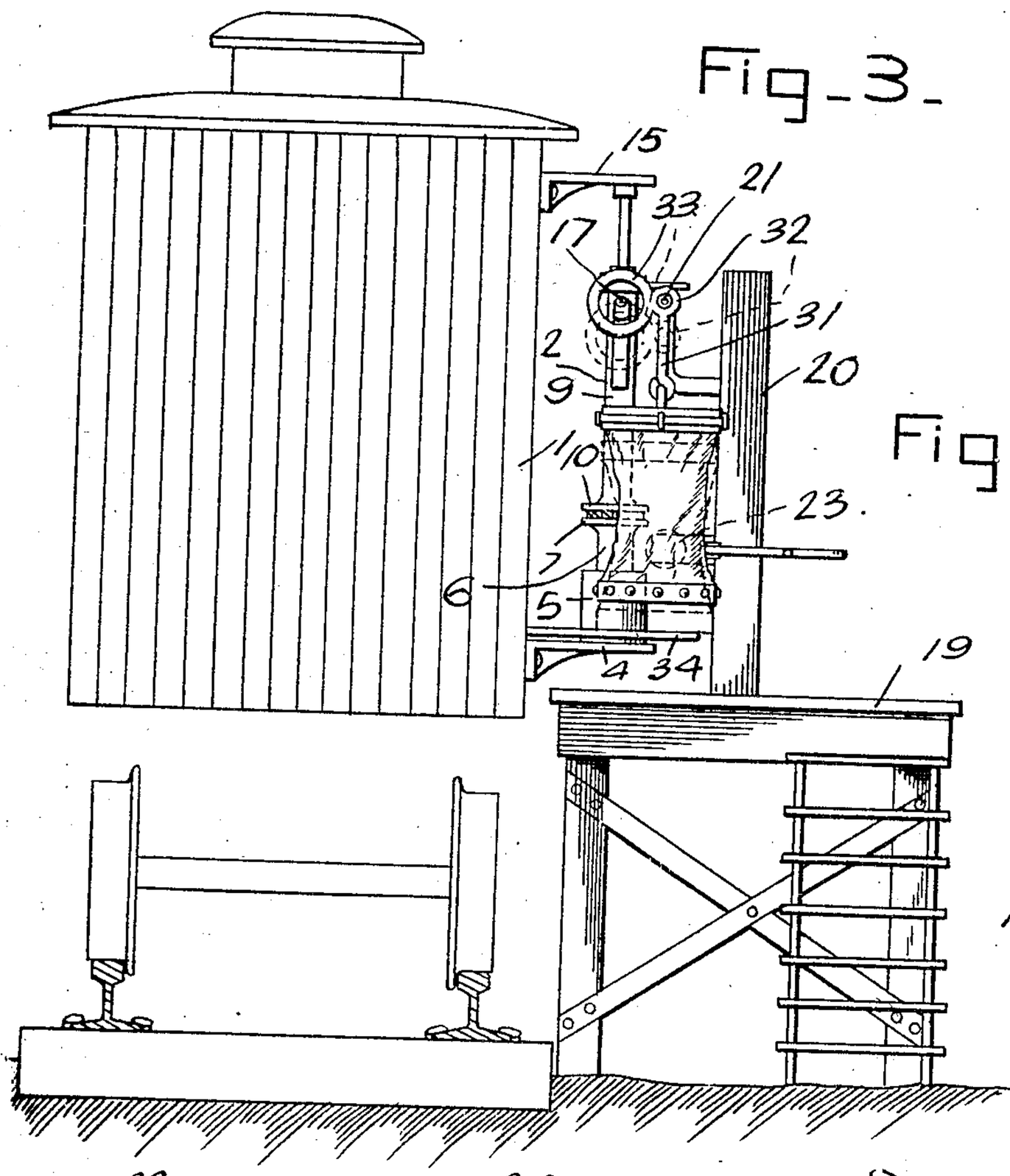

Fig. 4.

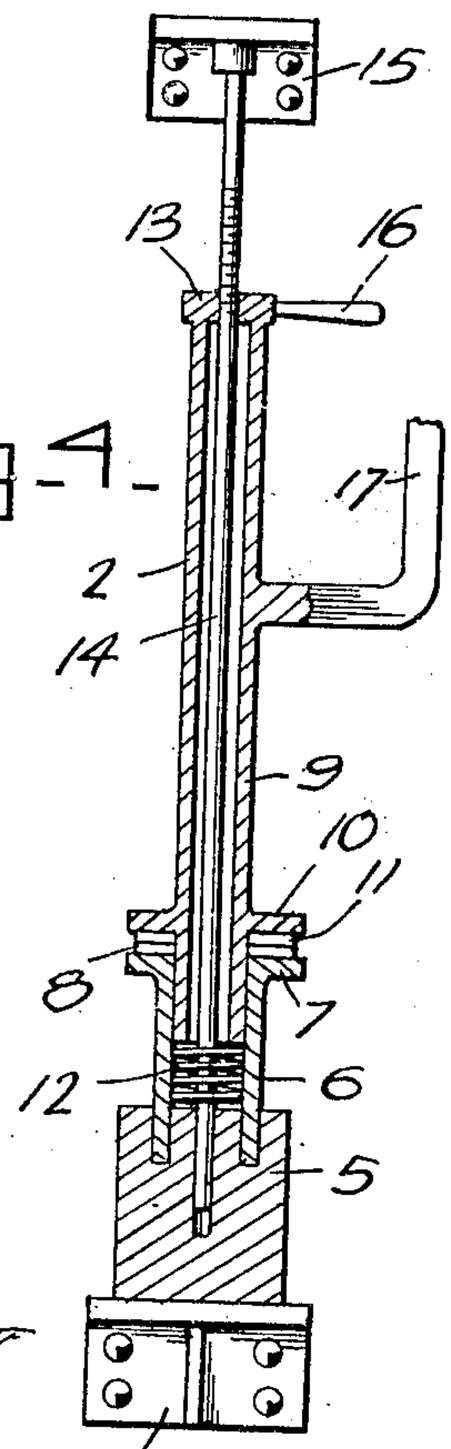

Fig. 5.

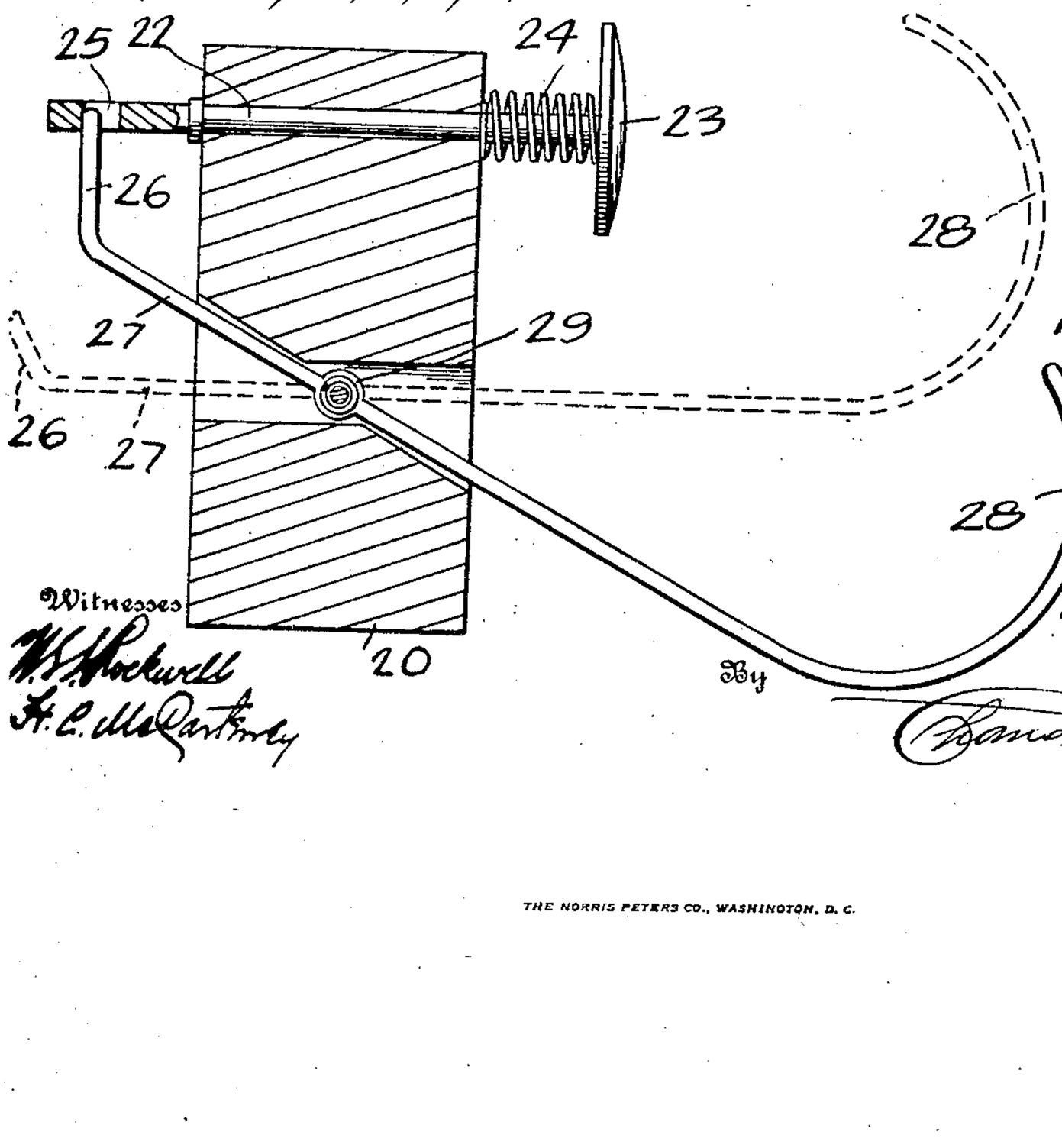

Fig. 6.

Witnesses
W. S. Rockwell
H. C. McCartney

Inventor
John C. Dayton

By Dandliker & Dandliker
Attorneys

UNITED STATES PATENT OFFICE.

JOHN C. DAYTON, OF PETERSBURG, WEST VIRGINIA.

MAIL-BAG CATCHING AND DELIVERING APPARATUS.

No. 882,237. Specification of Letters Patent. Patented March 17, 1908.

Application filed August 8, 1907. Serial No. 387,670.

To all whom it may concern:

Be it known that I, JOHN C. DAYTON, a citizen of the United States, residing at Petersburg, in the county of Grant, State of West Virginia, have invented certain new and useful Improvements in Mail-Bag Catching and Delivering Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention has reference to a mail-bag catching and delivering apparatus such as is employed where mail is delivered and received by a moving train and it is the general object of the invention to provide an exceedingly simple and effective apparatus of that nature.

More especially, however, the invention resides in the particular construction of the revolving hook carrying posts secured to the car, in the means for effecting the operation thereof, and in the construction of the bag-retaining means located at the receiving station, for holding a bag delivered from the car in place upon the post-carried receiving platform.

The invention will be readily understood from a consideration of the following detailed description and its preferred embodiment is illustrated in the accompanying drawings in which like parts are designated by corresponding reference numerals in the several views.

Of the said drawings, Figure 1 is a side elevation of the apparatus forming the subject of the present invention, Fig. 2 is a top plan view thereof. Fig. 3 is an end view of Fig. 1. Fig. 4 is an enlarged vertical section through one of the revolving posts carried by the car. Fig. 5 is an enlarged detailed view of one of the bag-retaining arms, the post to which said arm is attached being shown in section. Fig. 6 is an enlarged detailed view of the ratchet-faced collars formed on the revolving post and its supporting sleeve. Fig. 7 is a detailed view illustrating the manner in which the bag-retaining arm is mounted.

In the following description reference will first be had to the mechanism which is carried by the mail-car 1 and which includes more important features. This mechanism comprises primarily a pair of revolving posts 2 which are disposed upon opposite sides of the car door opening 3, each post being mounted upon a bracket 4 secured to the car wall. Each of said posts as shown in Fig. 4 consists of a socketed base portion 5 in which a hollow sleeve 6 is mounted, said sleeve having its upper end enlarged to form a collar 7 to the upper face of which a ratchet-faced disk 8 is secured. Within this sleeve is disposed the lower end of a second sleeve 9 which latter is likewise provided with an annular enlargement or collar 10 carrying a ratchet-faced disk 11, said disks being normally held in engagement with each other by means of a retractile coil spring 12 disposed within the sleeve 6 beneath the lower end of the sleeve 9 and connected at opposite ends to the latter and to the base 5. At its upper end the sleeve 9 carries a collar 13 rigidly secured thereto and provided with a threaded axial opening through which a rod 14 extends, said rod fitting at its upper end in the bearing formed upon a projecting bracket 15 secured to the car, and projecting at its lower end into a socket formed in the base 5. The collar 13 carries a laterally projecting handle 16. The surface of the rod is threaded at the point at which it extends through the collar 13.

From the foregoing description it will be understood that when the collar handle is moved in one direction the sleeve 9 will rotate and ascend sufficiently to effect the disengagement of the ratchet disks, whereupon the rotation of said sleeve can be continued in either direction. When the handle is released, the moving sleeve will be lowered under the tension of the spring 12, such movement effecting the reëngagement of the ratchet disks.

Each moving sleeve carries a laterally projecting hooked arm 17 which extends toward the adjacent end of the car and is bent upon itself towards its inner end to provide an upper and a lower horizontal section and a vertical connecting portion, the upper horizontal portion of each arm being provided adjacent its inner end with an inwardly extending seat 18 adapted to receive the upper ring of a mail bag as hereinafter more fully described. The hooked arms 17 may either be formed integral with the moving sleeves 9 or may be constructed separately and secured thereto according as desired.

It will be obvious that either of the arms 17 may be utilized as a bag-receiving arm and the other as a bag-supporting arm, ac-

cording as the train travels in one direction or the other. In the present instance, however, the left hand arm shown in Fig. 1 acts as the receiving member, the train traveling in the direction of the arrow shown in said figure.

The mechanism complementary to that above described is mounted upon a platform 19 disposed adjacent the tracks at the station at which the mail is to be delivered, and, as shown in Fig. 1, likewise consists primarily of a pair of vertical posts or standards 20 each of which carries toward its upper end a hooked arm 21 similar in construction to the arms 17 above described, the seats 18, however, being omitted. The corresponding sections of the several arms 17 and 21 lie in the same horizontal plane.

Each of the posts 20 is further provided with a horizontally disposed rod 22 slidable in an opening formed therethrough, and projecting at opposite ends beyond said opening as shown in Fig. 5, the end of each rod which extends in the same direction as the corresponding arm 21 being provided with a buffer head 23 against which the mail-bag is adapted to strike when delivered to said arm from a train, said head being held normally away from the adjacent face of the post by an expansible coil spring 24 which embraces the rod at such point. At its opposite end each rod is notched as indicated by the numeral 25 for the reception of the laterally bent end 26 of an arm 27 which likewise extends through an opening formed through the post and has its opposite end 28 bent into arcuate form. Each arm 27 is pivotally mounted intermediate its ends upon a pin disposed within the post opening, the latter being enlarged in opposite directions at its ends to permit the swinging movement of the arm. Said arms are normally held parallel with the corresponding rod 22 by means of coil springs 29.

It will be apparent from the foregoing therefore that when a mail-bag is delivered from either car-arm to the corresponding post-arm the bag will strike against the buffer head on rod 22 and will force the latter inwardly through its opening against the action of the spring 24, whereupon the bent end 26 of the swinging arm will disengage itself from the notched end of the rod under the action of the spring 29 and will swing into the position shown in dotted lines in Fig. 5, in which position it will extend partly around the mail-bag, the lower end of which rests upon the platform 19. In the present instance, however, the transfer is accomplished from the right hand car arm to the right hand post arm, the sliding arm carried by the left hand post being therefore inoperative. The top ring of each mail-bag has pivoted thereto a link 31 upon the upper end of which a ring 32 is formed, the last mentioned ring being connected to a ring 33 preferably formed integral therewith and having a diameter somewhat in excess than that of the ring 32.

The operation of the mechanism may be described as follows. When a train approaches the receiving station the moving sleeves 9 of the posts 2 are moved into operative position parallel with the car side and the mail-bag to be delivered is secured upon the end of the right hand hooked arm 17, it being understood that the train travels from the direction of the arrow in Fig. 1, a mail-bag having likewise been suspended upon the left hand post arm 21, said arms being in each instance passed through the smaller rings 32 carried by the mail-bags. As the train passes the receiving station, the forward arm 17 will pass through the larger ring 33 of the mail-bag supported upon the post and will remove the bag therefrom, the bag traveling along said arm until the engaged ring reaches the seat 18 in which it will be received. During its movement into this seat, the bag will have a slight downward movement sufficient to dispose its lower end upon a supporting platform 34 slidable outwardly through an opening formed in the side of the car. Simultaneous with the transfer of the mail-bag to the car arm, the right hand post arm will in like manner pass through the larger ring of the car-carried mail-bag which is thus transferred to the post arm, the bag traveling onto the lower section of said arm. During its transfer the bag will strike against the buffer head of the sliding rod 22 whereupon the arm 27 will be released from engagement with said rod and will swing into position to engage the bag thus retaining the latter upon the platform. As above stated, both transfers take place at practically the same moment, and the transferred bag is in each instance held against displacement, one bag by the swinging retaining arm 27 and the other bag by the engagement of its ring in the seat formed in the car arm.

Further description of the mechanism and its operation is deemed unnecessary in view of the foregoing.

What is claimed, is—

1. In a mail-bag catching and delivering mechanism, the combination with a car, of a vertical post located at one side of the car door and including a section rotatable into and out of operative position; a bag-receiving arm carried by said section; means for normally holding said section against rotation; and means for releasing said section from engagement with said holding means, to permit its rotation.

2. In a mail-bag catching and delivering mechanism, the combination, with a car, of a vertical post located at one side of the car door and including a section rotatable into and out of operative position; a bag-receiv-

ing arm carried by said section; means for holding said section against rotation; means for raising said section, to effect its disengagement from said holding means, and permit its rotation; and means for returning said section into reëngagement with said holding means.

3. In a mail-bag catching and delivering mechanism, the combination, with a car, of a vertical post located at one side of the car door and including a rotatable sleeve and means for supporting the same; a laterally-projecting bag-receiving arm carried by said sleeve; a collar carried by said sleeve and provided with a ratchet-faced disk; a collar carried by said supporting means and provided with a ratchet-faced disk adapted for engagement with said first-mentioned disk; means for retaining said disks normally in engagement with each other, to hold said sleeve against rotation; and means for releasing said disks from engagement with each other, to permit the rotation of said sleeve.

4. In a mail-bag catching and delivering mechanism, the combination, with a car, of a vertical post located at one side of the car door and including a stationary lower sleeve, and a rotatable upper sleeve extending into the latter; a laterally-projecting bag-receiving arm carried by said rotatable sleeve; a collar carried by said upper sleeve and provided with a ratchet-faced disk; a collar carried by said lower sleeve and provided with a ratchet-faced disk adapted for engagement with said first-mentioned disk; means for normally retaining said disks in engagement with each other, to hold said upper sleeve against rotation; a rod extending through said sleeves; and means secured to said upper sleeve and engaged with said rod for raising said upper sleeve, to effect the disengagement of said disks from each other, and permit the rotation of said upper sleeve.

5. In a mail-bag catching and delivering mechanism, the combination, with a car, of a vertical post located at one side of the car and including a stationary lower sleeve, and a rotatable upper sleeve extending into the latter; a laterally-projecting bag-receiving arm carried by said rotatable sleeve; a collar carried by said upper sleeve and provided with a ratchet-faced disk; a collar carried by said lower sleeve and provided with a ratchet-faced disk adapted for engagement with said first-mentioned disk; a spring disposed within the lower sleeve beneath the end of the upper sleeve, and connected with the latter for normally engaging said ratchet disks with each other, to prevent the rotation of the upper sleeve; a rod extending through said sleeves, said rod being threaded towards its upper end; a collar formed upon the upper end of said upper sleeve and provided with a threaded axial opening through which said rod extends; and a handle carried by said collar, for raising said upper sleeve, to effect the disengagement of said disks, and permit the rotation of said upper sleeve.

6. In a mail-bag catching and delivering mechanism, the combination, with a car, of a vertical post located adjacent the car door; and a laterally-projecting bag-receiving arm carried by said post, said arm including an upper and a lower horizontal section, and a vertical connecting portion, the upper section of said arm being provided with a downwardly extending seat adapted to receive the upper end of a mail-bag.

7. In a mail-bag catching and delivering mechanism, the combination, with a vertical post and a laterally-projecting bag-receiving arm carried thereby, of a bag-retaining arm pivoted to said post; means adapted for engagement with said retaining arm, to hold the latter in inoperative position; and means for automatically moving said retaining arm into operative position in engagement with a mail-bag disposed upon said receiving arm.

8. In a mail-bag catching and delivering mechanism, the combination, with a vertical post and a laterally-projecting bag-receiving arm carried thereby, of a bag-retaining arm pivoted to said post and provided with a curved end adapted to embrace a mail-bag disposed upon said receiving arm; means for holding said retaining arm in inoperative positon; and means for automatically moving said retaining arm into contact with the bag upon its release from said holding means.

9. In a mail-bag catching and delivering mechanism, the combination, with a vertical post and a laterally-projecting bag-receiving arm carried thereby, of a bag-retaining arm pivoted to said post; a sliding arm carried by said post and provided with a notched end adapted for engagement with said retaining arm, to hold the latter in inoperative position; a buffer located upon the opposite end of said arm and adapted to be struck by a mail-bag transferred to said receiving arm, to effect an endwise movement of said rod; and a coil-spring carried by said retaining arm, to move the latter into operative position in engagement with the bag, upon the endwise movement of said rod.

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

JOHN C. DAYTON.

Witnesses:
H. C. McCarteney,
W. M. Rockwell.