G. E. DENISON.

MAIL BAG CATCHER AND DELIVERER.

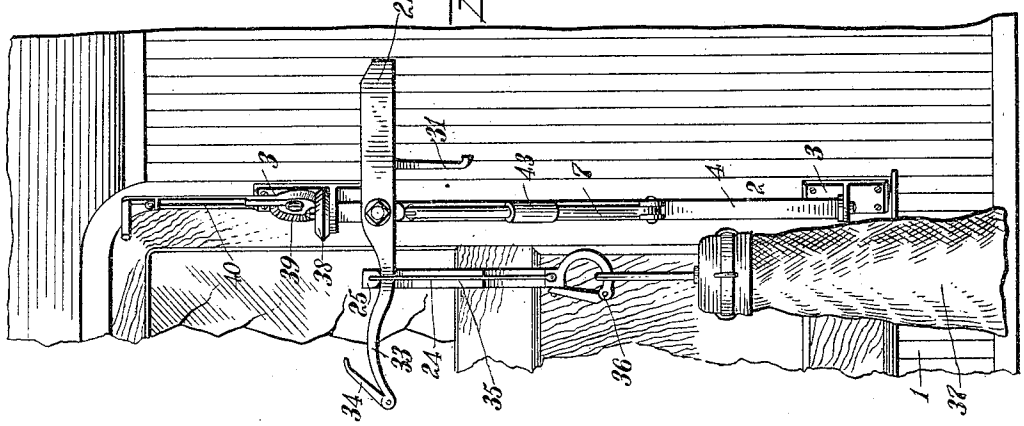
APPLICATION FILED OCT. 28, 1909.

953,519.

Patented Mar. 29, 1910.

3 SHEETS—SHEET 1.

Fig. 2



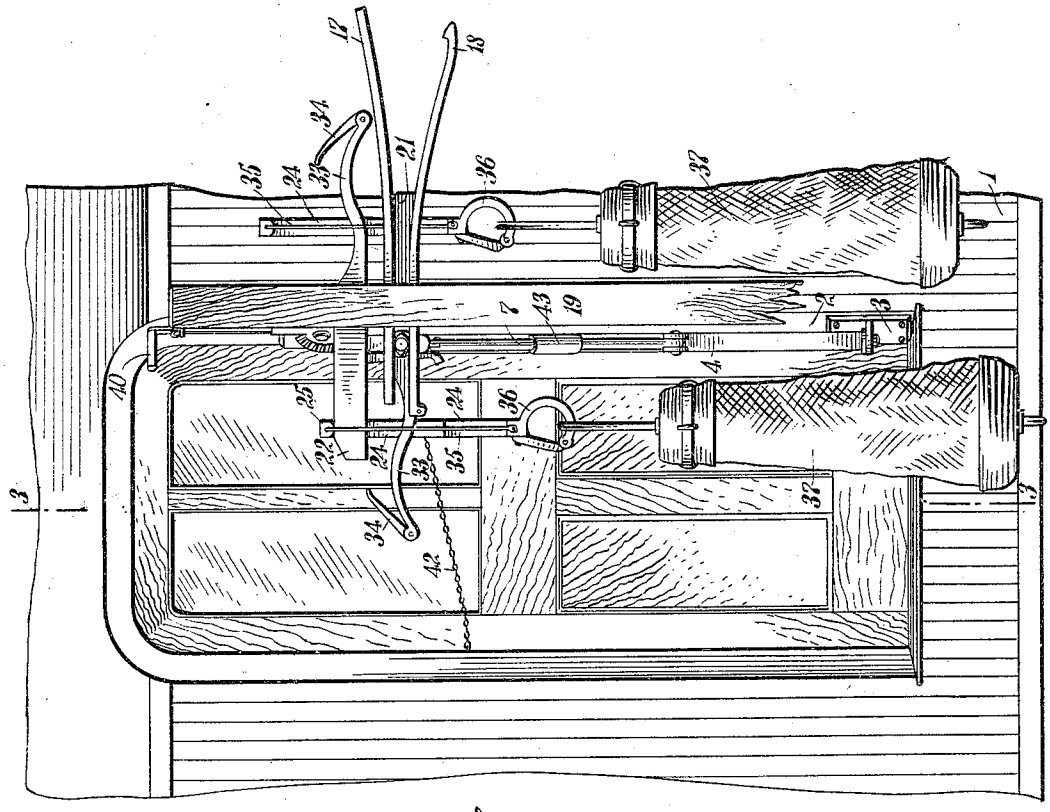


Fig. 1

WITNESSES

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3 SHEETS—SHEET 2.

Fig. 4

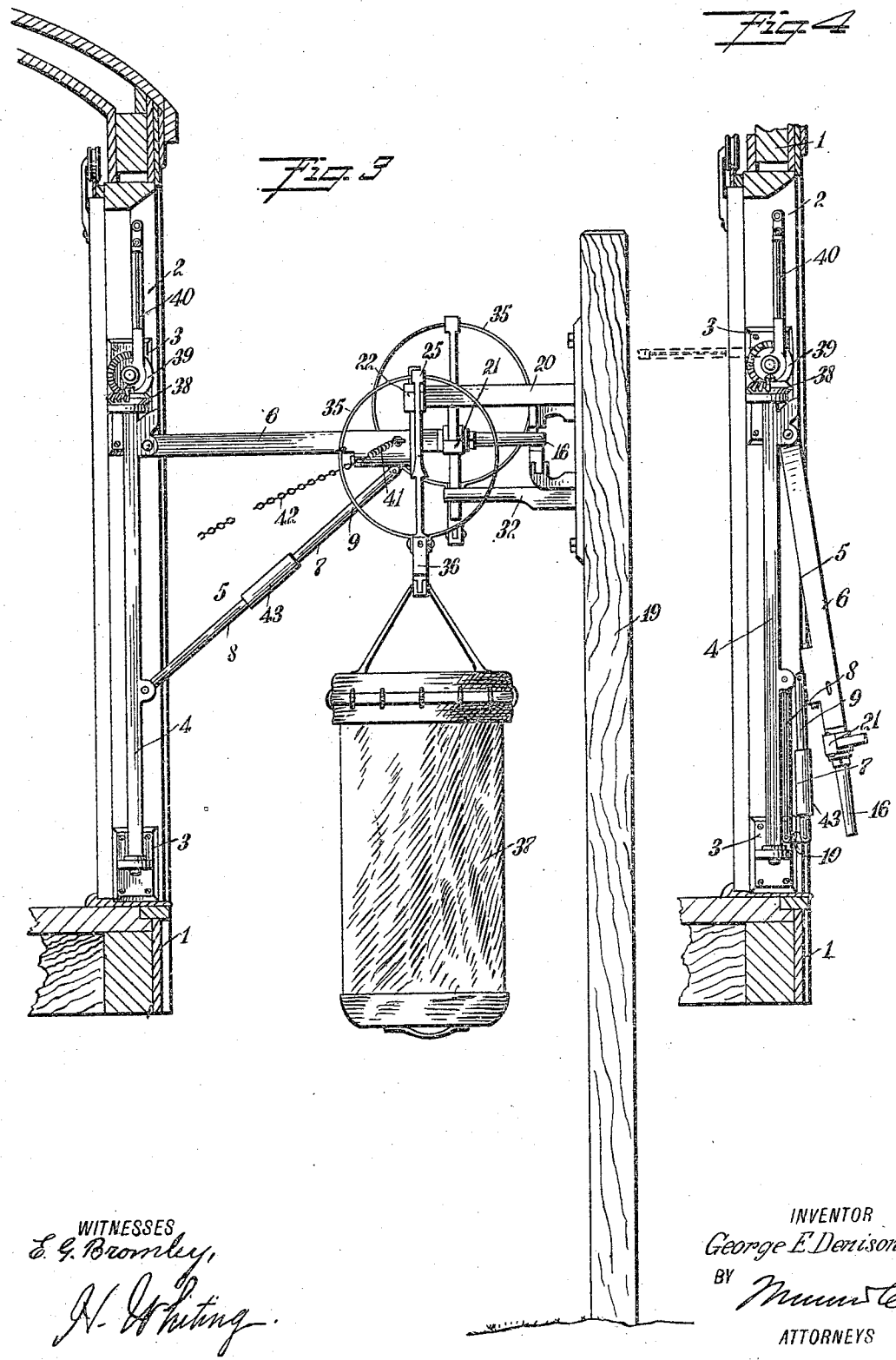

Fig. 3

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3 SHEETS—SHEET 3.

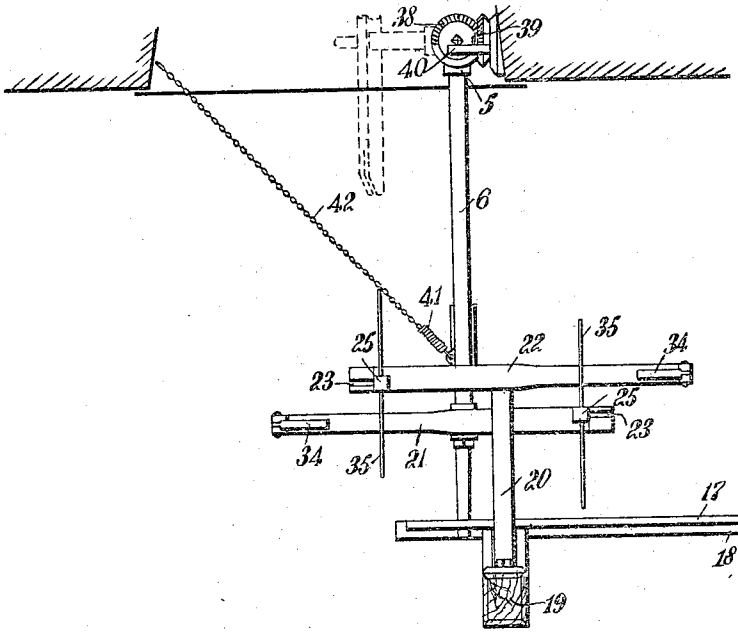


Fig. 5

Fig. 6

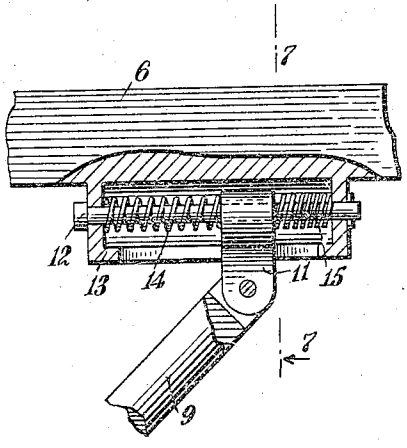


Fig. 7

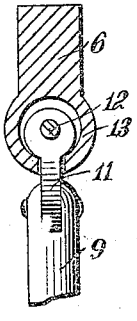
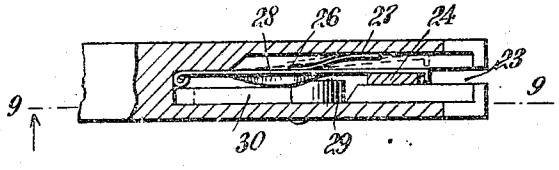


Fig. 8



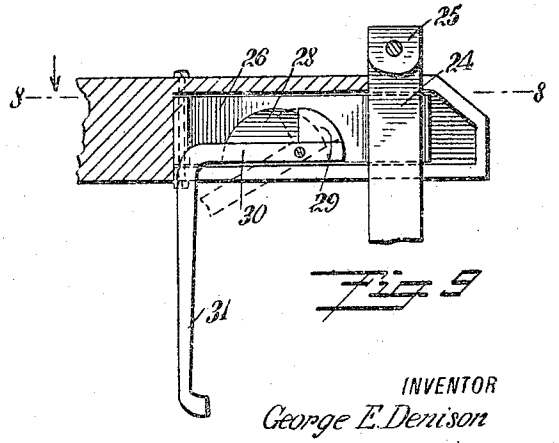


Fig. 9

WITNESSES

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UNITED STATES PATENT OFFICE.

GEORGE ELI DENISON, OF VERNON, NEW YORK.

MAIL-BAG CATCHER AND DELIVERER.

953,519. Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed October 28, 1909. Serial No. 525,022.

To all whom it may concern:

Be it known that I, GEORGE ELI DENISON, a citizen of the United States, and a resident of Vernon, in the county of Oneida and State of New York, have invented a new and Improved Mail-Bag Catcher and Deliverer, of which the following is a full, clear, and exact description.

This invention relates to a device which is adapted to receive mail or other packages from and deliver mail or other packages to, a moving train from a stationary platform.

An object of this invention is to provide a device which will be simple in construction, readily accessible, positive yet resilient in its operation, inexpensive to manufacture, and strong and durable.

A further object of this invention is to provide a device which will suspend the mail bag or other package in a locked position until a trigger is tripped by opposing mechanism.

A still further object of this invention is to provide a crane which may be rotated and also extended into an operative position and folded up into inoperative position.

These and further objects, together with the construction and combination of parts, will be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a side view in elevation, showing the stationary and the movable crane and their relative positions when co-acting one with the other, and each in the act of receiving a mail bag from the other. Fig. 2 is a view similar to Fig. 1, showing the parts after the crane on the moving train has passed the stationary crane and has received a mail bag therefrom; Fig. 3 is a vertical section on the line 3—3 of Fig. 1; Fig. 4 is a view similar to Fig. 3, showing the car crane in its folded up or collapsed position; Fig. 5 is a top plan view, showing the parts in the same relative position as occupied in Fig. 1; Fig. 6 is an enlarged detail view, partly in section, showing the connection of the brace to the supporting arm of the traveling crane; Fig. 7 is a vertical section on the line 7—7 of Fig. 6; Fig. 8 is an enlarged section on the line 8—8 of Fig. 9, illustrating the method of supporting the mail bag hanger from the crane arm; and Fig. 9 is a vertical section on the line 9—9 of Fig. 8.

Referring more particularly to the separate parts of the device, 1 indicates a railroad car of any suitable structure, to the side 2 of the door of which is secured in any well known manner a plurality of brackets 3. The brackets 3 form pivotal supports for an upright post 4 of a crane 5. Pivotally secured near the upper end of the post 4, there is provided an arm 6, which may be folded up alongside of the post 4, or extended out into the position indicated in Fig. 3. In order to hold the arm 6 out in its extended position, there is provided a brace 7, which is formed of two members 8 and 9, pivotally connected together by a link 10. The lower member 8 is pivotally secured to the post 4, and the upper member 9 is pivotally secured to a bracket 11 (see Fig. 6), which is slidingly supported on a rod 12, secured in any well known manner to a casing 13 on the arm 6. Springs 14 and 15 are secured on the rod 12, on each side of the bracket 11, and are adapted to yieldingly engage the bracket 11 and thus hold the brace 7 in a mid-position. In order to hold the members 8 and 9 in alinement, there is provided a thimble or sleeve 43, which is adapted to slide over the ends of the members 8 and 9 and prevent them pivoting relative to each other.

The arm 6 is provided at its outer end with a follower 16, which is adapted to slide between converging guide members 17 and 18 on a stationary post 19, which is secured adjacent the side of the railroad track. This post forms a support for a stationary crane 20, and is provided with the guides 17 and 18, so as to bring the crane arm 6 in its proper relative position relative to the crane 20. Both the crane 5 and the crane 20 are provided with delivering and receiving members 21 and 22, which are in the form of cross bars secured to the arm 6 and the crane arm 20. As these delivering and receiving members 21 and 22 are alike, only one of them will be described.

One side of each of the delivering members 21 and 22 (as more clearly illustrated in Figs. 8 and 9) is slotted near the end thereof at 23, so as to receive a mail bag hanger 24, which is provided with an enlarged head 25, whereby it may be suspended on the delivering member. In order to

lock the hanger 24 in the slot 23, there is provided a catch 26, which is normally held in engagement with the hanger 24, by means of a spring 27. In order to force the catch 26 out of engagement with the hanger 24, so as to permit it to be removed from the slot 23, the side of this catch is provided with a cam 28, which is adapted to be engaged by a raised head 29 on a trigger 30, which is pivotally secured to the delivering member. This trigger 30 extends downwardly at 31, so as to form a convenient projection to be engaged by a device on the opposing crane, for the purpose of operating the same. In the case of the stationary bag deliverer and receiver, the trigger is operated by the arm 6 on the movable crane 5. In the other case, however, the trigger 31 on the moving crane 5 is operated by a separate tripper 32, which is secured in any well known manner to the post 19. The opposite side of the delivering and receiving mechanism from the side in which the hanger is suspended before delivering, is provided with a goose-neck portion 33, which is adapted to receive the disengaged mail bag hanger, and is provided with an upwardly-projecting barb 34, which is adapted to retain the mail bag hanger thereon.

In order that the receiving mechanism may easily and accurately receive the mail bag hanger, the latter is provided with a circular wire loop 35, which extends to either side of the hanger proper. The lower end of each hanger 24 is provided with a snap hook 36, whereby a mail bag 37 or other package may be readily attached to and detached from the hanger 24. The mail bag 37 may be of any suitable form, but is preferably of the mesh-link type.

In order to rotate the crane 5 so as to swing the crane arm 6 into and out of the doorway of the car 1, the upper end of the post 4 is provided with a sector bevel gear 38, which is engaged by a similar bevel gear 39, which is pivotally secured to the side of the doorway 2. The latter sector gear 39 is provided with a hand crank 40, whereby it may be operated to rotate the post 4, and thus swing the arm 6 toward or away from the doorway of the car.

In order to limit the outward motion of the crane arm 6 and take up the part of the shock on the crane due to the delivering or receiving of a mail bag, there is provided a detachable spring hook 41, which is secured at one end to the arm 6, and at the other end to a flexible connection 42, such as a chain, which in turn is secured to the car 1.

The operation of the device will be readily understood when taken in connection with the above description. When the crane 5 on the car 1 is out of operation, it is folded up in the position indicated in Fig. 4, with the sleeve 43 and slid up on the member 9, so that the brace 7 is collapsed. In order to bring the crane into operation, the arm 6 is swung up into a horizontal position, and the sleeve 43 slid over the joint between the members 8 and 9, so that it forms a substantially rigid yet yielding support for the arm 6. In order to swing the arm 6 out from the doorway of the car, the hand crank 40 is operated to rotate the post 4. The mail bag to be delivered on the platform is suspended by one of the hangers 24 engaging in the slot 23 on the delivery end of the member 22. If it is desired to deliver a bag from the station to the train, another hanger 24 is suspended with a bag thereon, on the member 21. When the train approaches the post 19, the follower 16 will pass between the converging guides 17, which will be permitted, by reason of the pivotal and spring connection of the arm 6 to its support, to adjust said arm with the hanger thereon to the proper relative position with respect to the crane 20 on the post 19. Thus any inequalities in the up and down motion of the train will be allowed for. When the crane 5 moves past the crane 20, the tripper 32 will trip the trigger 31 on the crane 5, and the arm 6 will trip the trigger 31 on the crane 20, thereby operating to remove the catches 26 out of engagement with the hangers 24, thus permitting the hangers 24 to be shunted off from their delivering mechanism and caught on the opposite receiving mechanism, where they are retained by the barbs 34. After the mail bag has been removed from the arm 6, it may be swung down into the position shown in Fig. 4 by sliding the sleeve up on the brace member 9, thus permitting the brace to collapse and to fold up.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a device of the class described, the combination with a car, of a crane rotatably supported on said car, and means for rotating said crane, said crane comprising an upright post, an arm pivotally connected to said post, a plurality of brace members pivotally connected together, and a sleeve slidingly supported on said members and adapted to hold them in alinement.

2. In a device of the class described, the combination with a car, of a post rotatably supported on said car, a bevel sector gear secured to said post, a bevel gear meshing with said first-mentioned gear, a hand crank adapted to rotate said second-mentioned gear, an arm pivotally connected to said post, a brace, composed of two members pivotally connected together and pivotally connected to said post and to said arm, a sleeve slidingly supported on said members and adapted to hold said members in alinement, a spring hook connected to said arm, a flex-

ible connection connecting said spring hook with said car, and a delivering and receiving member on said arm.

3. In a device of the class described, the combination with a crane, of a bag-delivering mechanism on said crane, comprising a bar having a slot therein, said slot being adapted to receive a mail bag hanger, a catch adapted to lock said hanger in said slot, a cam on said catch, and a trigger adapted to release said catch from said hanger.

4. In a device of the class described, the combination with a crane, of a bag-delivering mechanism secured to said crane, comprising a bar having a slot therein adapted to receive a mail bag hanger, a spring-pressed catch adapted to lock said hanger in said slot, a cam on said catch, and a trigger pivoted to said bar and adapted to engage said cam to release said catch.

5. In a device of the class described, the combination with an upright support, of an arm pivotally connected to said support, a brace, comprising a pair of members, one of said members being pivoted to said upright support, the other of said members being yieldingly connected to said arm, and means for holding said members in alinement.

6. In a device of the class described, the combination with an upright support, of an arm pivotally connected to said support, a rod connected to said arm, a bracket slidingly secured to said rod, a plurality of springs yieldingly holding said bracket in a predetermined position, a brace pivotally secured to said bracket and composed of a plurality of members pivotally connected together, and means for securing said members in alinement.

7. In a device of the class described, the combination with a frame, of a hanger for said frame, means for removably securing a mail bag to said hanger, and a circular wire loop extending to either side of said hanger.

8. In a device of the class described, the combination with a support, of a post rotatably connected to said support, an arm pivotally connected to said post, a brace having a floating spring connection with said arm, and resilient means for limiting the outward movement of said arm.

9. In a device of the class described, the combination with a support, of a post rotatably connected to said support, an arm pivotally connected to said post, a brace pivotally connected at one end to said post and slidably connected at the other end to said arm, and springs for yieldingly holding said brace in a medial position on said arm.

10. In a device of the class described, the combination with a support, of a post rotatably connected to said support, means for rotating said post, an arm pivotally connected to said post, a brace pivotally connected at one end to said post, and slidably connected at the opposite end to said arm, springs for normally holding said brace in a medial position on said arm, and a flexible connection secured to said support at one end and having a spring hook engaging said arm at its opposite end.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE ELI DENISON.

Witnesses:
ARTHUR O. PEPPER,
JOHN C. WARD.