No. 698,358. Patented Apr. 22, 1902.

G. R. BERRIEN.

MAIL BAG DELIVERER AND CATCHER.

(Application filed Nov. 8, 1901.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1

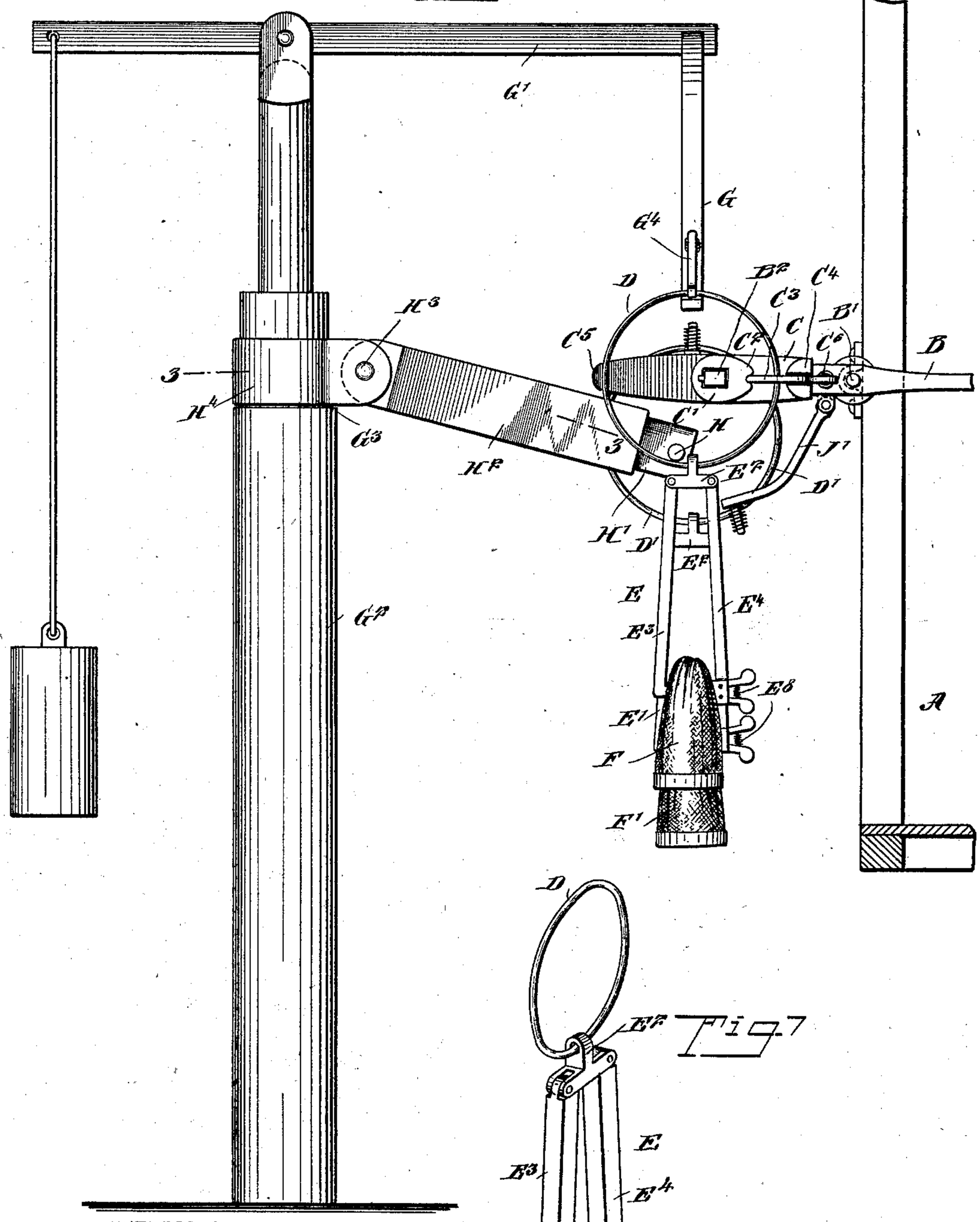

Fig. 7

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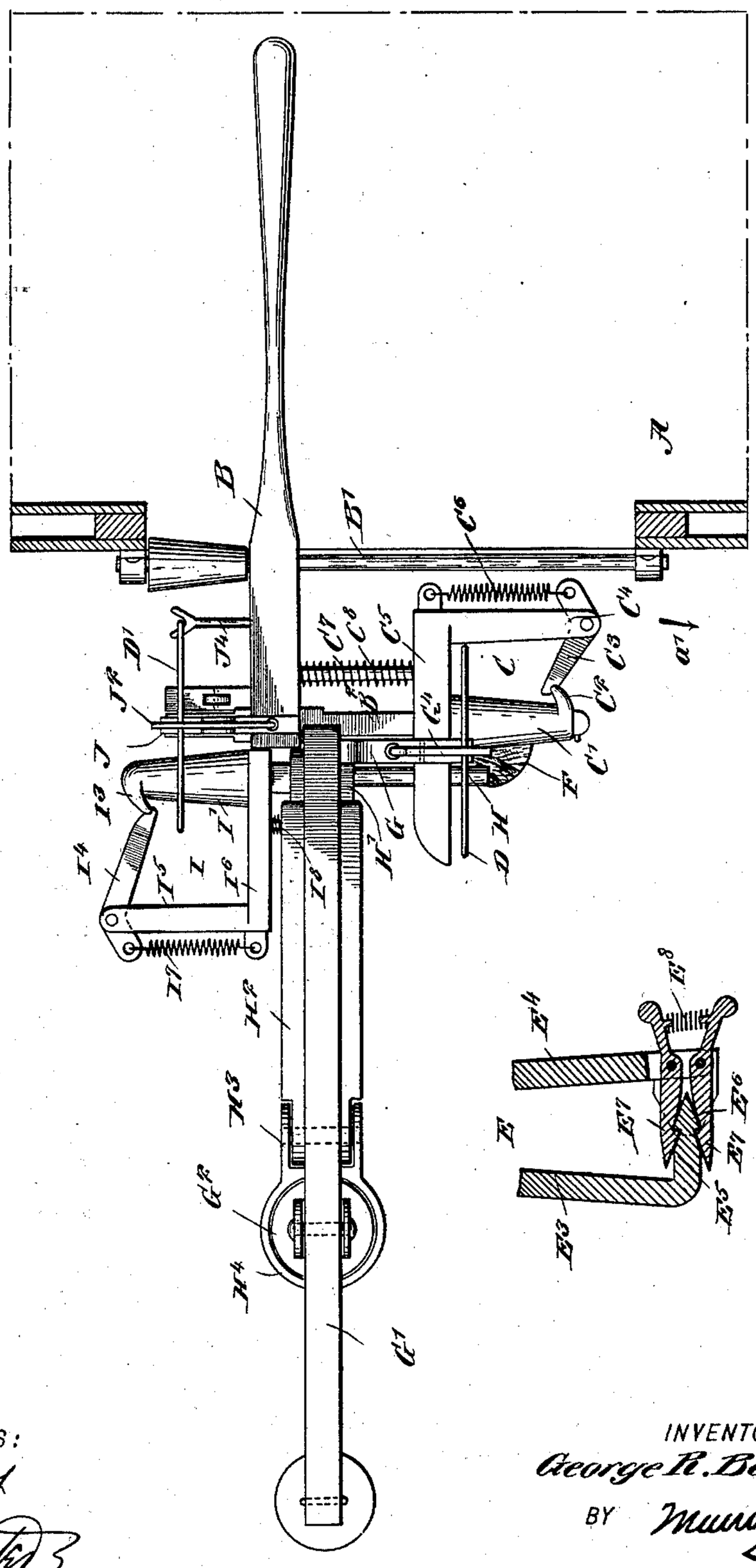

FIG. 2.

FIG. 4.

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(No Model.) 3 Sheets—Sheet 3.

Fig. 3

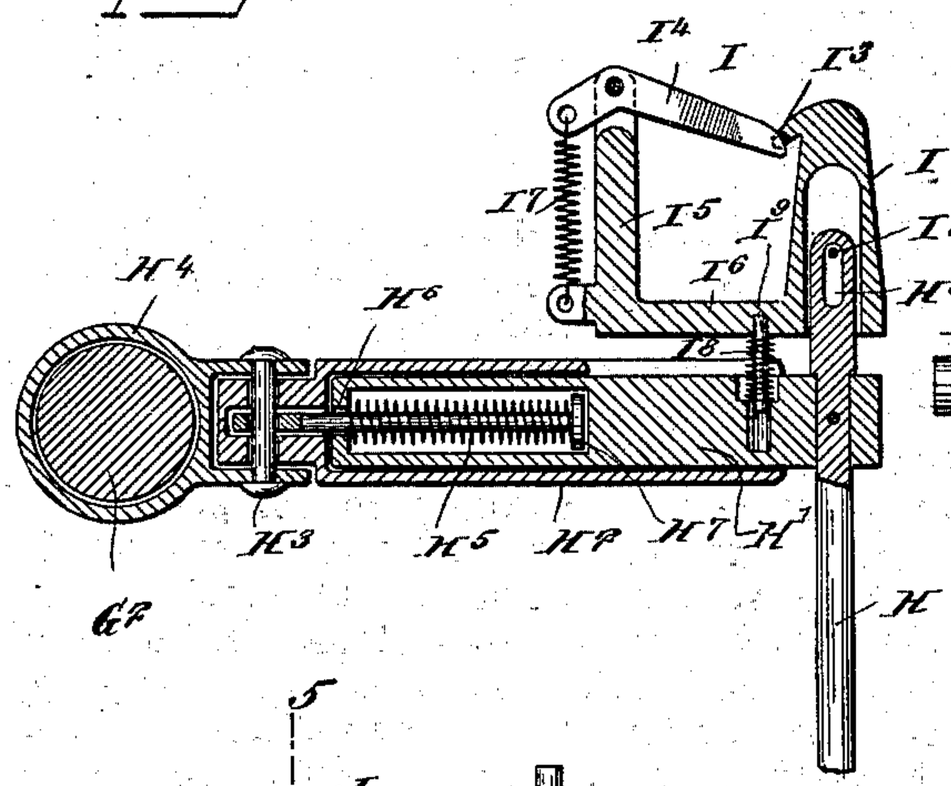


Fig. 5

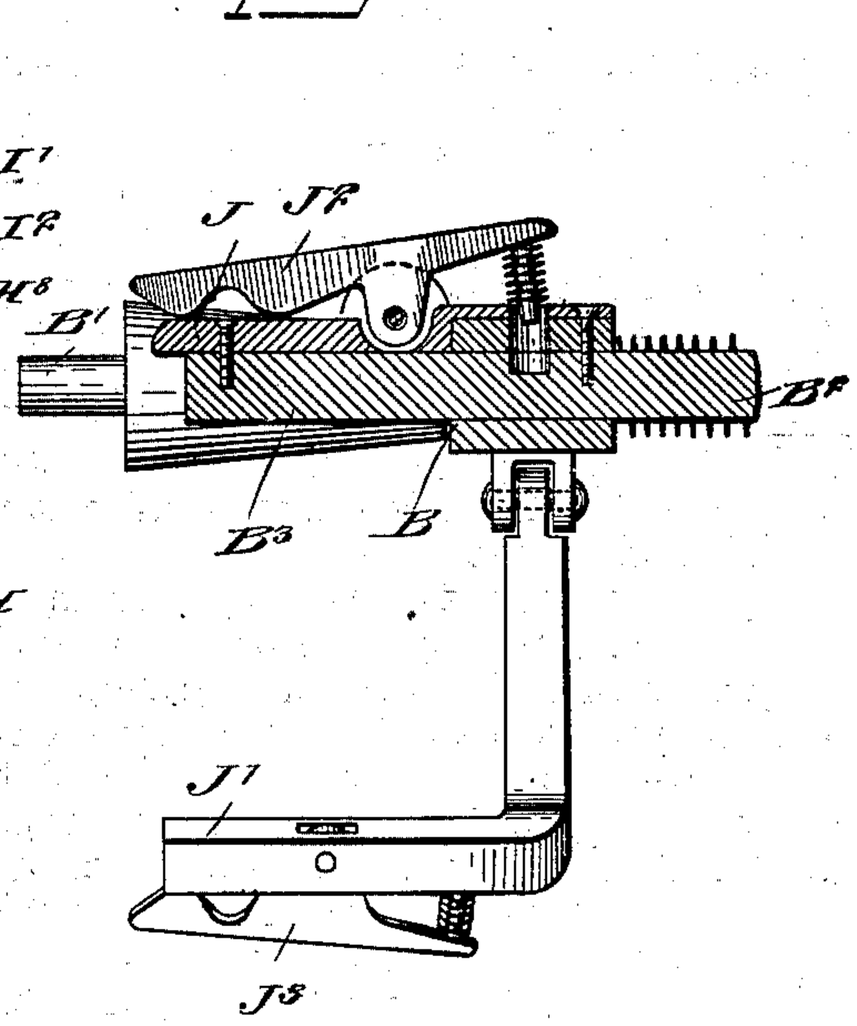


Fig. 4

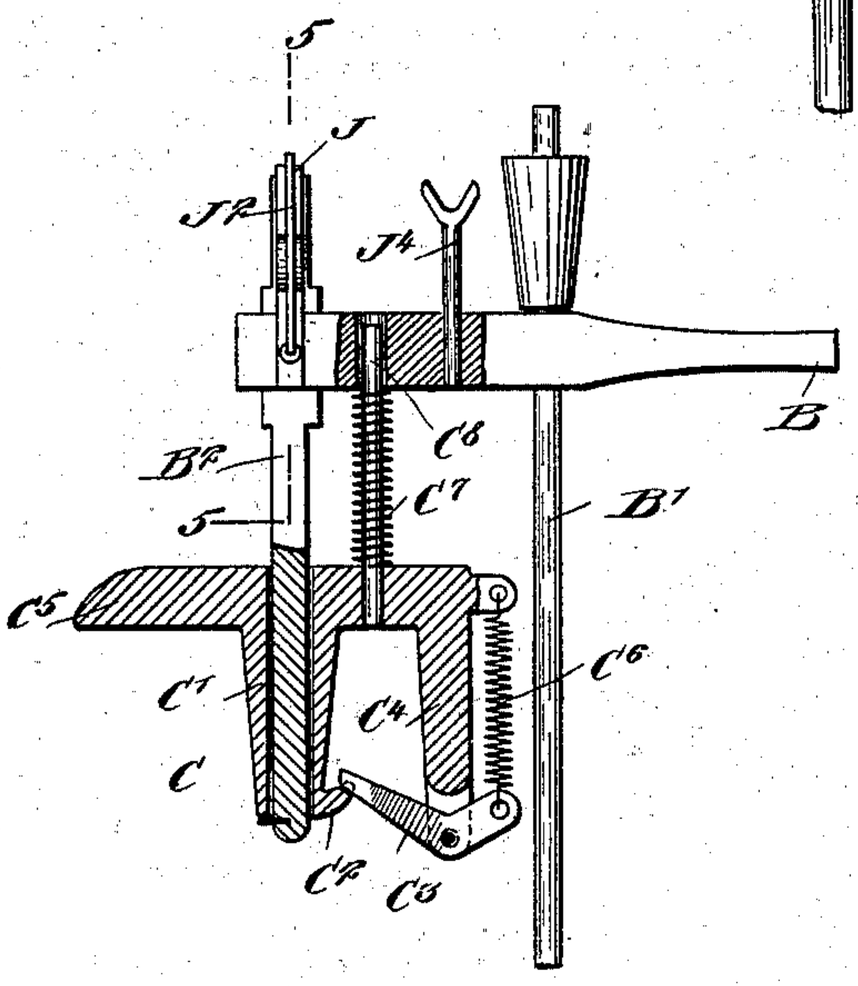
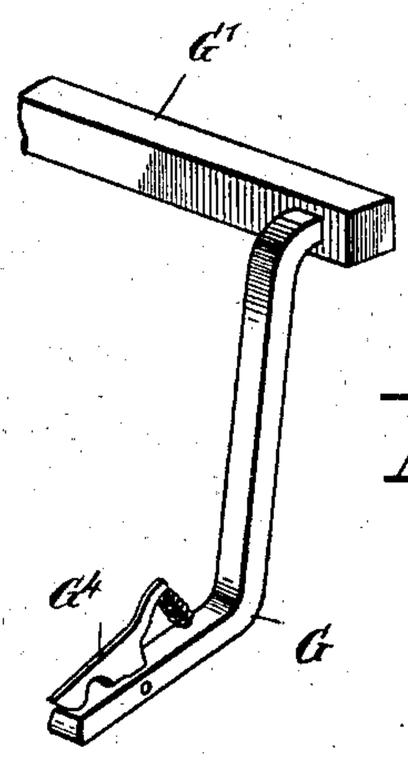


Fig. 8



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UNITED STATES PATENT OFFICE.

GEORGE RYAN BERRIEN, OF PRINCETON JUNCTION, NEW JERSEY.

MAIL-BAG DELIVERER AND CATCHER.

SPECIFICATION forming part of Letters Patent No. 698,358, dated April 22, 1902.

Application filed November 8, 1901. Serial No. 81,556. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RYAN BERRIEN, a citizen of the United States, and a resident of Princeton Junction, in the county of Mercer and State of New Jersey, have invented a new and Improved Mail-Bag Deliverer and Catcher, of which the following is a full, clear, and exact description.

The invention relates to railway mail-service; and its object is to provide a new and improved mail-bag deliverer and catcher arranged to automatically deliver a mail bag or pouch from a car to a station and to pick up a mail bag or pouch at the station from the mail-car while the latter passes the station.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement, showing the mail-car in section and in position at a station to deliver a pouch and receive one. Fig. 2 is a plan view of the same, the car being shown in section. Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 1. Fig. 4 is a sectional plan view of the mail-car arm and parts carried thereby. Fig. 5 is a transverse section of the same on the line 5 5 of Fig. 4. Fig. 6 is a perspective view of the pouch-support at the station. Fig. 7 is a perspective view of one of the pouch-holders, and Fig. 8 is a sectional side elevation of the lower part of the pouch-holder.

In the door-opening of a mail-car A is fulcrumed at B′ an arm B, under the control of the person in charge of the mail-car to permit of swinging the arm into a horizontal position (see Figs. 1 and 2) whenever it is desired to deliver and receive a pouch at a station or to swing the arm into a vertical position when not in use and when past the station. On the outer end of the arm B is arranged a forwardly-projecting guide-bar B^2, on which is mounted to slide a catcher C, adapted to engage a ring D, carrying a pouch-holder E, for holding a station-pouch F to be received from the car at the station. The ring D is removably hung on a supporting-arm G, carried by a counterbalance-lever G′, supported on a post or standard G^2, set on a suitable foundation adjacent to the track on which the mail-car travels in the direction of the arrow a'. The ring D also supports temporarily a pin H, extending at right angles from a slide H′, movable in an arm H^2, fulcrumed on a pivot-pin H^3, carried by a collar H^4, mounted to turn on a suitable bearing G^3, arranged on the post or standard G^2. The slide H′ is normally held in an innermost position (see Fig. 3) by a spring H^5, coiled on a rod H^6, fulcrumed on the pivot-pin H^3, and carrying at its free end a head H^7, against which abuts one end of the spring H^5, the other end of the latter pressing on the inner end of the slide H′ to hold the latter in an innermost position, as shown in Fig. 3. On the rear end of the pin H is slidably held a catcher I, similar in construction to the catcher C and adapted to receive a ring D′, carrying a pouch-holder E′, similar to the pouch-holder E, and serving to hold a mail-car pouch F′ to be delivered at the station from the mail-car. The ring D′ is hung on a supporting-arm J, attached to or forming part of the rear end B^3 of the bar B^2, (see Fig. 5,) the ring D′ being also engaged at its bottom by an arm J′, fulcrumed on the under side of the arm B. (See Figs. 1 and 5.) The arms J and J′ are provided with spring-pressed pivoted retaining-catches J^2 and J^3 to hold the ring D′ against accidental displacement, and a similar retaining-catch G^4 is arranged on the top of the arm G to hold the ring D against accidental displacement. (See Fig. 6.) On the arm B is arranged a fork J^4 for engagement by the inner side of the ring D′ to hold the latter approximately parallel to the arm B to insure a proper passage of the ring D′ into the catcher I, as hereinafter more fully explained. (See Fig. 2.) The catcher C, previously mentioned, is provided with a shank C′, mounted to slide on the bar B^2 and having its forward end formed with a nose C^2, operating in conjunction with the free end of an entrance-catch C^3, fulcrumed on the forward end of a shank C^4, arranged parallel with the shank C′ and secured to a rear cross-bar C^5, against which the ring D is adapted to abut. The catch C^3 is pressed on by a spring C^6 to nor-

mally hold the catch against the inside of the nose C^2 and to allow the catch to open inwardly upon engaging the ring D when the car passes the station in the direction of the arrow a'. The catcher C is normally held in an outermost position on the bar B^2 by a spring C^7, extending between the cross-bar C^5 and the arm B, and the said spring C^7 is coiled on a guide-rod C^8, secured to the cross-bar C^5 and sliding in a bearing in the arm B. Thus when the holder E and the ring D enter the catch C^3 the latter opens inwardly to permit the ring D and the holder E to pass upon the shank C' and to finally abut against the cross-bar C^5, so that on the further forward movement of the car the holder is carried by the ring. The impact of the ring D on the cross-bar C^5 causes the holder E to slide rearwardly on the bar B^2 and against the tension of the spring C^7, so that the ring and holder are not liable to be damaged, it being understood that as soon as the force of the impact is spent the spring C^7 returns the holder E to a normal forward position on the bar B^2, as shown in Fig. 4.

Each of the holders E and E' consists of an eye E^2, (see Fig. 7,) engaging the corresponding ring D or D', and on the eye are pivoted depending arms E^3 and E^4, between which is passed the middle portion of the pouch or bag F or F'. The arm E^3 is formed at its lower end with an inwardly-extending shank E^5, having an arrow-head E^6, adapted to be engaged by catches E^7, pivoted on the lower end of the arm E^4 and pressed apart at their outer ends by a spring E^8 (see Fig. 8) to hold the catches E^7 normally in engagement with the arrow-head E^6 and retain the pouch or bag in position between the arms. When it is desired to place a pouch or bag in position in the holder E or E', the operator presses the outer ends of the catches E^7 to disengage the latter from the arrow-head E^6, and thereby allow of swinging the arms E^3 and E^4 apart for placing the mail bag or pouch in position between the arms. The latter are now swung toward each other to reëngage the arrow-head E^6 with the spring-pressed catches E^7 to lock the arms E^3 and E^4 in a closed position, and with the mail bag or pouch securely held between the arms.

The catcher I consists, essentially, of a shank I', mounted to slide on the rear end of the pin H, (see Figs. 2 and 3,) the sliding motion of the shank being limited by a stop-pin I^2 on the shank, said stop-pin extending through an elongated slot H^8 in the pin H. The rear end of the shank I' is provided with a nose I^3, operating in conjunction with an entrance-catch I^4, fulcrumed on a shank I^5, held on a cross-bar I^6, integral with the forward end of the shank I'. A spring I^7 holds the catch I^4 normally in a closed position against the nose I^3, and the catcher I is yieldingly mounted on the rear end of the pin H, and for this purpose a spring I^8 is interposed between the cross-bar I^6 and the slide H', the spring being coiled on a guide-rod I^9, sliding in bearings in the slide H' and in the cross-bar I^6.

The operation is as follows: The operator in charge of the station places the mail bag or pouch in position between the arms E^3 and E^4 of the holder E and then hangs the ring D onto the supporting-arm G to suspend the holder E and its pouch or bag F, as illustrated in Fig. 1, from the counterbalance-lever G'. The operator also swings the arm H^2, and with it the slide H', upward and turns the ring D sufficiently to allow of passing the pin H in engagement with the bottom of the ring adjacent to the eye E^2, as plainly indicated in Fig. 1. By this upward movement of the arm H^2 and slide H' the catcher I is moved into position for receiving the ring D' and its holder E' and pouch F'. The latter, contained in the mail-car, is placed by the attendant in charge thereof between the arms E^3 and E^4 of the holder E'. The ring D' of this holder is hung on the arms J and J', carried by the arm B, and when the car approaches the station the arm B is swung into a horizontal position, as shown in Fig. 1, so that the car in passing the station causes the catcher C to engage the ring D and move the same off the supporting-arm G and pin H, and at the same time the ring D' passes onto the catcher I and is disengaged from the arms J and J', so that the arm B is relieved of the ring D', the holder E', and pouch F', and supports the ring D, the holder E, and the pouch F. The arm B is now swung on its pivot B' by the attendant in charge of the mail-car, so that the ring D can be disengaged from the catcher C by swinging the catch C^3 inward to move the ring out between the nose C^2 and catch C^3. The catcher C is now opened and the pouch F is removed. As soon as the ring D is carried along by the catcher C on the forward movement of the car A the pin H is thus deprived of its support, and consequently the arm H^2, slide H', and parts carried thereby swing downward to carry the ring D', holder E', and pouch F' to the ground to allow the operator in charge of the station to remove the ring D' from the catcher I by swinging the catch I^4 inward and passing the ring out between the catch I^4 and nose I^3. The holder E' is now opened and the pouch F' is removed and taken to the post-office.

From the foregoing it will be seen that no matter how fast the car is traveling the several devices readily function in a proper manner to cause the delivery of a mail-pouch from the car to the station and to insure the pouch from the station being picked up by the car without the slightest danger of the pouch being dropped or the parts of the device injured, as is so frequently the case with devices of the class now in use.

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 crane having means for suspending a mail-bag at a station, of an arm hung to swing toward and from the crane and provided with devices for engaging with said bag-suspension means, a car-bag catcher mounted and projecting from one side of the swing-arm and provided with a holding member and with a catch arranged to coöperate with said member.

2. In a device of the class described, the combination with a station-crane having bag-suspension devices, of an arm mounted to swing toward and from the crane, and having means adapted to engage with said station-bag-suspension devices, and a car-bag catcher yieldably mounted on said swing-arm and capable of a cushioned movement relative thereto under the impact of a car-bag, said catcher being movable with the swing-arm and having a holding member, and a catch arranged to coöperate with said member.

3. In a device of the class described, the combination with a station-crane, of a two-part swing-arm, one of the members of said arm being pivoted on the crane, and the other member being slidably fitted to the pivoted member, said slidable member being normally impelled by a spring, and having means adapted for engagement with a station-bag-suspension device.

4. A mail-bag deliverer and catcher, comprising an arm on the mail-car, a catcher yieldably mounted on the car-arm, a station mail-pouch support adapted to be engaged by said catcher on the car-arm and to be removed thereby from the station, a swinging station-arm held in an active position by said station mail-pouch support, a catcher yieldably held on said station-arm, and a car mail-pouch support carried by the car-arm and adapted to be delivered by the same to the second-named catcher which is carried by the swinging station-arm.

5. A device of the class described, provided with a mail-pouch support comprising a ring, an eye on the ring, arms pivoted on the eye, and a locking device for locking the free ends of the arms together, as set forth.

6. A device of the class described, provided with a mail-pouch support comprising a ring, an eye on the ring, arms pivoted on the eye, and a locking device for locking the free ends of the arms together, the said locking device consisting of a shank on the free end of one of the arms and having an arrow-head, and spring-pressed catches on the free end of the other arm and adapted to engage the said arrow-head, as set forth.

7. A device of the class described, provided with a station-post, a lever fulcrumed thereon, a ring removably hung on the said lever, a mail-pouch holder suspended on the said ring, an arm fulcrumed on the post, a spring-pressed slide movable in the said arm, and a pin on the said slide for engaging the said ring to hold the arm and slide in an operative position, as set forth.

8. A device of the class described, provided with a station-post, a lever fulcrumed thereon, a ring removably hung on the said lever, a mail-pouch holder suspended on the said ring, an arm fulcrumed on the post, a spring-pressed slide movable in the said arm, a pin on the said slide for engaging the said ring to hold the arm and slide in an operative position, and a catcher held in the said slide to receive the car mail-pouch carrier, as set forth.

9. A device of the class described, provided with a station-post, a lever fulcrumed thereon, a ring removably hung on the said lever, a mail-pouch holder suspended on the said ring, an arm fulcrumed on the post, a spring-pressed slide movable in the said arm, a pin on the said slide for engaging the said ring to hold the arm and slide in an operative position, and a catcher held in the said slide to receive the car mail-pouch carrier, the said catcher being yieldingly mounted on the said pin, as set forth.

10. A device of the class described, provided with a station-post, a lever fulcrumed thereon, a ring removably hung on the said lever, a mail-pouch holder suspended on the said ring, an arm fulcrumed on the post, a spring-pressed slide movable in the said arm, a pin on the said slide for engaging the said ring to hold the arm and slide in an operative position, and a catcher held in the said slide to receive the car mail-pouch carrier, the said catcher comprising a shank mounted to slide on the pin and having a nose, and a spring-pressed catch operating in conjunction with the said nose, as set forth.

11. A device of the class described, provided with a station-post, a lever fulcrumed thereon, a ring removably hung on the said lever, a mail-pouch holder suspended on the said ring, an arm fulcrumed on the post, a spring-pressed slide movable in the said arm, a pin on the said slide for engaging the said ring to hold the arm and slide in an operative position, a catcher held in the said slide to receive the car mail-pouch carrier, the said catcher comprising a shank mounted to slide on the pin and having a nose, a spring-pressed catch operating in conjunction with the said nose, and a cross-bar on the said shank, and carrying a second shank on which the spring-pressed catch is fulcrumed, as set forth.

12. A device of the class described, provided with a station-post, a lever fulcrumed thereon, a ring removably hung on the said lever, a mail-pouch holder suspended on the said ring, an arm fulcrumed on the post, a spring-pressed slide movable in the said arm, a pin on the said slide for engaging the said ring to hold the arm and slide in an operative position, a catcher held in the said slide to receive the car mail-pouch carrier, the said catcher comprising a shank mounted to slide

on the pin and having a nose, a spring-pressed catch operating in conjunction with the said nose, a cross-bar on the said shank, and carrying a second shank on which the spring-pressed catch is fulcrumed, and a spring interposed between the cross-bar and slide, as set forth.

13. In a device of the class described, the combination with a movable car-arm, of a guide-arm projecting therefrom, and a station-bag catcher yieldably mounted on said guide-arm to give backwardly to the impact of a station mail-bag, said catcher having a holder member and a catch coöperating therewith.

14. A device of the class described, having a car-arm, a supporting-arm rigid thereon, a catch on the supporting-arm, a pivoted arm on the said car-arm, and a catch on the pivoted arm, as set forth.

15. In a device of the class described, the combination with a car-arm, of a guide-arm projecting therefrom, a station-bag catcher slidably mounted on said guide-arm, and cushion operatively related to said catcher to absorb the shock due to the impact of a bag with the catcher.

16. In a device of the class described, a bag-catcher comprising a hollow holding member provided with a nose at its extremity, a cross-bar solid with said member and provided with a shank that lies adjacent to the member, and a yieldable catch mounted on the shank and spanning the space between the shank and the member to coöperate with the nose thereof.

17. In a device of the class described, a bag-catcher having a holding member provided with a laterally-extending nose, a shank adjacent to said member, and a yieldable catch spanning the space between the member and the shank, said catch being mounted on said shank to open inwardly from the nose and adapted to be seated firmly against said nose and to be limited in its closing movement thereby.

18. In a device of the class described, the combination with a station-crane, and a swing-arm thereon, of a pin carried by said arm, a car-bag catcher slidably mounted on an end portion of said pin and provided with a holding member and a catch, means for limiting the movement of the catcher, and a cushion device opposing the movement of the catcher.

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

GEORGE RYAN BERRIEN.

Witnesses:
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THOMAS W. LA VAKE.