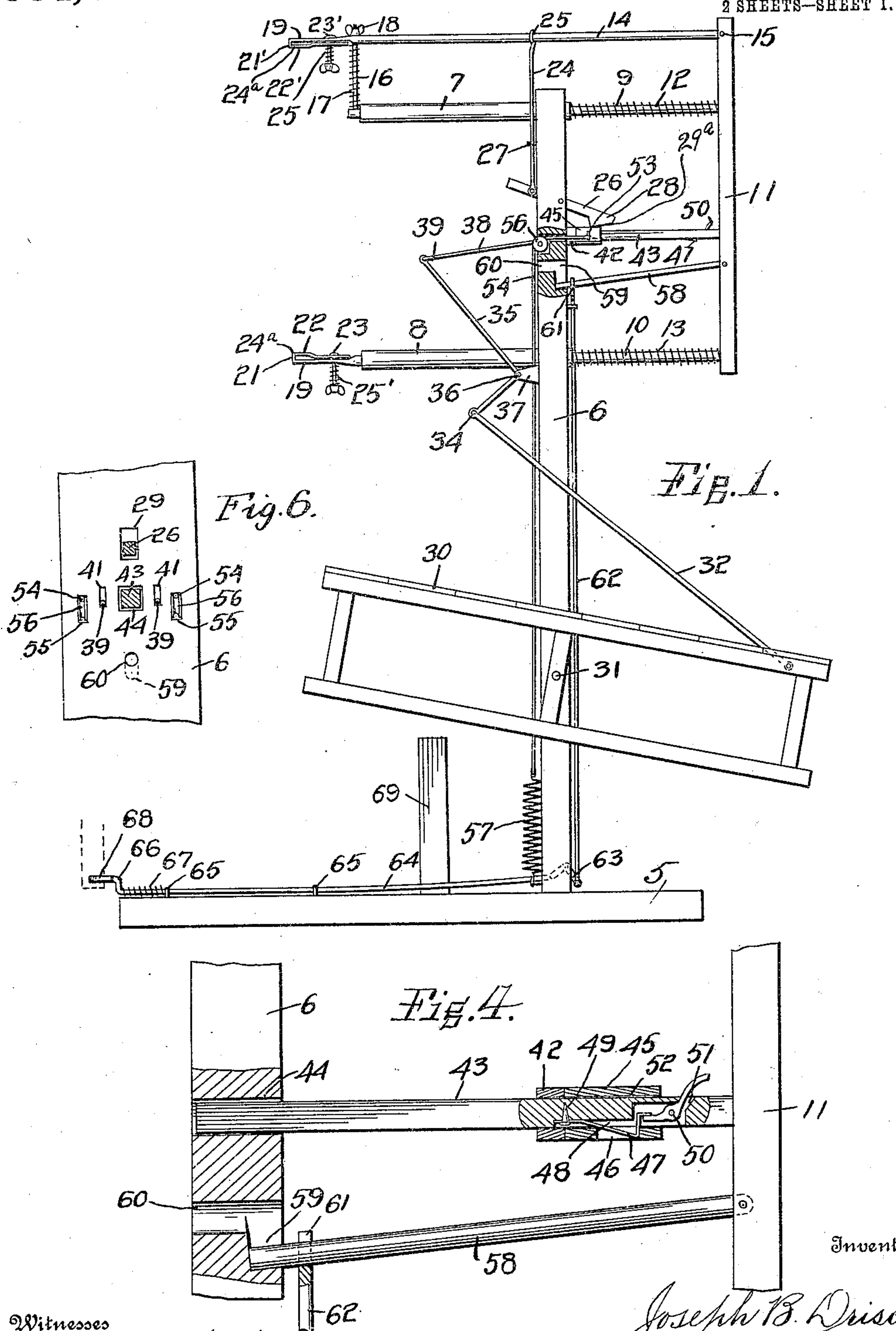


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Patented Sept. 14, 1909.

2 SHEETS—SHEET 1.



Witnesses  
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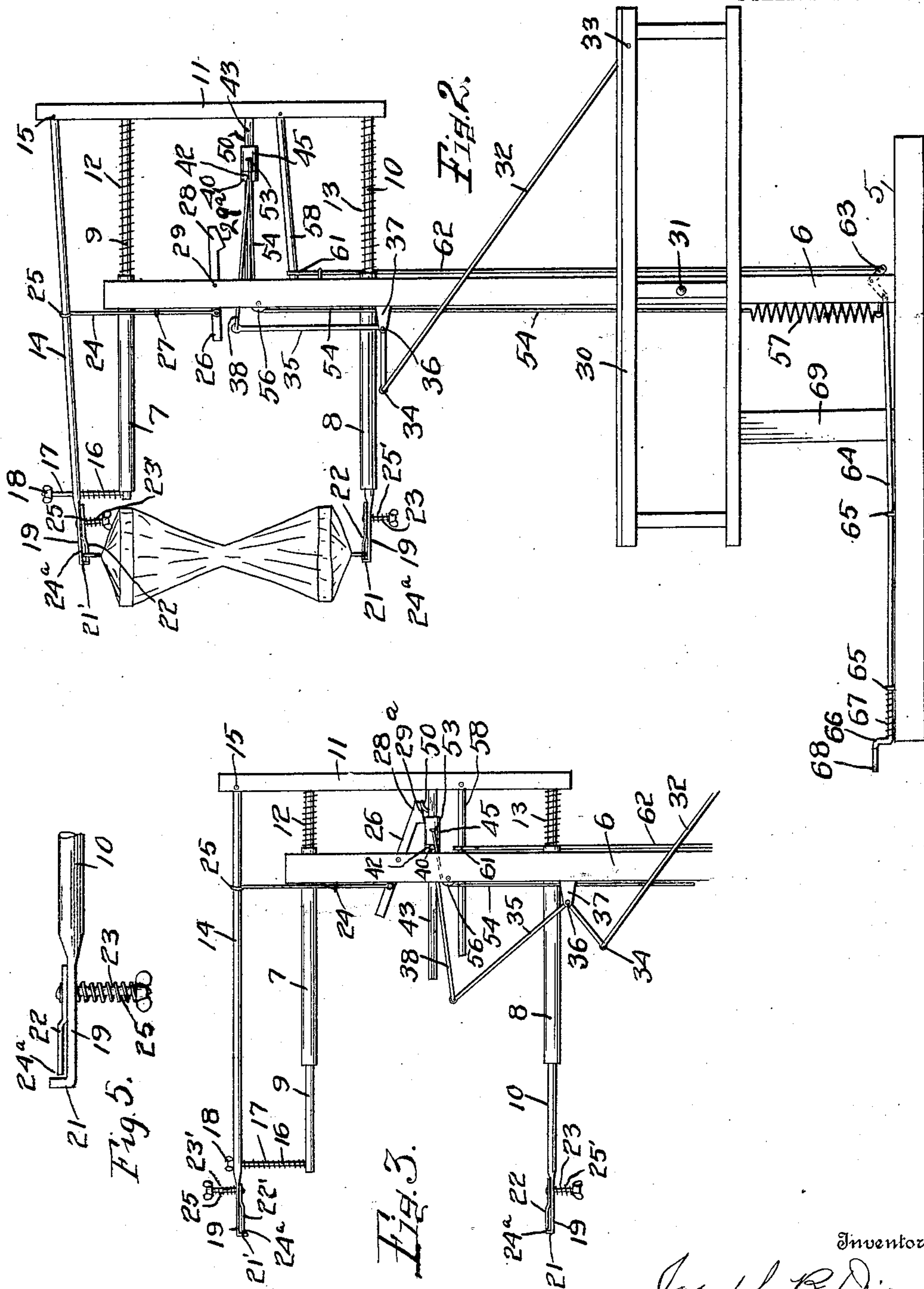
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By

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# UNITED STATES PATENT OFFICE.

JOSEPH B. DRISCOLL, OF CLIFTON FORGE, VIRGINIA.

APPARATUS FOR THE DELIVERY OF MAIL-BAGS TO MOVING TRAINS.

934,295.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed November 30, 1908. Serial No. 465,097.

*To all whom it may concern:*

Be it known that I, JOSEPH B. DRISCOLL, a citizen of the United States, residing at Clifton Forge, in the county of Alleghany and State of Virginia, have invented certain new and useful Improvements in Apparatus for the Delivery of Mail-Bags to Moving Trains, of which the following is a specification.

10 This invention relates to improvements in an apparatus for the delivery of mail bags to moving trains, one of the objects thereof, being to provide a device of this character, which will be automatically thrown into operative position by means of an attachment placed upon the mail car or engine tender whereby the device will not assume its operative position until the engine has passed.

Another object of my invention is to provide a device of this class, which after being automatically thrown into and held in operative position, will, after the removal of the mail bag, be automatically forced back into its normal position and therefore entirely out of danger of being struck by any of the passing cars.

Heretofore most of the mail cranes and devices of like nature, have been objectionable on account of their being complicated in design and of not providing automatic means whereby the bag holding frame is thrown out of its operative position at the instant that the mail pouch is removed therefrom. However in my invention I have provided automatic means whereby the bag or pouch holding frame is thrown into operative position just an instant before the arrival of the bag receiving arm which is attached to the mail car, and instantly upon the removal of the pouch, means will be automatically released which will force the above named frame out of operative position and thus out of danger.

Further objects and advantages of my invention will be apparent from the following description, with reference to the accompanying drawings wherein:—

Figure 1 is a side elevation of my invention. Fig. 2 is the same as Fig. 1 showing the front of the pivoted platform depressed and the mail bag in position. Fig. 3 is a detail view of the movable frame in an extended position. Fig. 4 is a detail sectional view. Fig. 5 is a detail view of one of the

bag holding clips. Fig. 6 is a detail view of a portion of the upright standard.

Throughout the different views like numerals of reference indicate like parts.

Referring to the drawings, the numeral 5 designates a suitable base adapted to lie adjacent to the track of a railroad, this base being provided with an upright post or support, 6, detachably secured at or near the rear of the base 5. Two hollow cylindrical bearings, 7 and 8, are secured to the said post, the bearing 7 disposed above 8, and suitably spaced therefrom and in vertical alinement therewith. These two bearings extend through the post 5 and are adapted to receive the rods 9 and 10, which are rigidly connected at their rear ends by means of a bar 11, and together constitute a bag supporting frame.

Spiral or coil springs 12 and 13 carried by the rods 9 and 10, respectively, and having their rear ends bearing against the front face of connecting bar 11 and their forward ends against the rear face of the standard 6, serve to press the bag supporting frame normally inward and thus retract it from delivery position to withdrawn position. The rod 10, is adapted to serve as one of the mail bag holding arms while the arm 14 located above the rod 10, in alinement therewith serves as the other holding arm. Arm 14 is pivotally connected to the bar 11, as at 15, and is normally held parallel to the rods 9 and 10 by means of the spring 16, surrounding the upwardly extending rod 17 and adapted to press against the arm 14; the said arm 14 being provided with an aperture through which the rod 17 passes, whereby the said rod will be guided in its vertical movement, and limited in upward movement by suitable means, such as a wing nut 18, detachably and adjustably secured to the upper end of the rod 17. Each of the arms 10 and 14 is flattened adjacent to its free end, as at 19, the extreme end of the arm 10 being bent upwardly at right angles to form the tang or lip 21, while the extreme end of the arm 14 is bent downwardly at a like angle to form the lip 21'.

On the upper face of the flattened portion 19 of the bar 10 and on the under face of the like portion of the bar 14 catches 22 and 22' respectively, are secured by means of the rods 23 and 23', each carrying a helical



spring 25. Said catches are deflected at their outer ends to provide a space between them and the ends 19 of the arms 10 and 14. The rod 23 is arranged to pass freely through the arm 10 and be rigidly secured to the catch 22, while the rod 23' is arranged to pass freely through the catch 22' and be secured to the arm 14. These parts form the clip elements 24<sup>a</sup>.

10 A link 24 provided with an eye 25 at its upper end, through which the arm 14 passes, connects the said arm 14 with the trip 26. The lower portion of this connecting link 24 is bifurcated, (not shown), whereby the arms  
15 of the link may pass downwardly on each side of the cylindrical bearing 7, through the guide bolts 27, which are fastened to the post 6, the lower ends of the bifurcated portion being secured to one end of the latch  
20 26, which, in turn passes through and is pivoted within an aperture 29 formed in the post 6. It will be noted that the rear end of the trip 26 terminates in an enlarged portion 28, provided with the beveled faces 29<sup>a</sup>.

25 Pivotally secured adjacent to the lower end of the post or standard 6 is the platform 30, the point of pivot 31 being nearer to the front of the platform than to the rear thereof, thus causing the rear end of the said platform to lie in a lower horizontal plane than  
30 does the front end, whereby the platform assumes the position shown in Fig. 1 as when it is not in use.

A pair of lever rods 32 are secured adjacent to the rear end of the platform, as at  
35 33, and are spaced apart a sufficient distance to permit the rods to pass one on each side of the post 6. The upper ends of these two levers are connected by a pin 34 which also  
40 connects the lower ends of a pair of bell crank levers 35, which in turn are pivotally secured, as at 36, to the post brackets 37. The upper ends of the bell crank levers 35 converge slightly and are connected respectively to links 38 integrally connected at one  
45 end, while the free ends 40 pass through slots 41 formed in the standard 6.

The free ends 40 of the links 38 pass through the slots 41 and are pivotally connected to a rectangular collar 42 which is loosely fitted to slide upon the rod 43. The pivotal connection between the end of the link and the collar permit the outer ends of  
50 said link to follow the movement of the levers 35. This rod 43 is rigidly connected to the bar 11, while the other end thereof has a bearing 44 in the post 6 through which the bar is adapted to slide. A rectangular sleeve 45 is also slidably mounted on the rod  
60 43, the under face of said sleeve having an aperture 46, for the reception of a spring catch 47 whenever this sleeve is forced a certain distance rearwardly upon the rod 43. The catch 47 is located within a cut away  
65 portion 48 on the under face of the rod 43

and is secured thereto as at 49. The free end of this catch is engaged by the trigger 50 one end of the said trigger projecting upward through a slot 51 formed in the rod 43. The said sliding sleeve provided with a longitudinal slot 52 adapted to fit about said trigger so as not to interfere with the function thereof, which will be described hereafter.

Lugs or ears 53 are secured to the sides of the sleeve 45 and are adapted to be connected with belts, chains or other flexible means 54 which pass over pulleys 56, journaled in apertures 55, thence down the front of the post 6, connecting at the lower end thereof, with a heavy coil spring 57, the lower end of the spring being rigidly secured to the base or support 5.

58 is a stop rod pivoted at its rear end to the bar 11. The forward end of this rod normally rests in a recess 59, which opens into the opening 60 which extends through the post 6. Located just below this stop rod 58 is the bifurcated head 61, of a lever rod 62, which extends downwardly the length of the post 6, the lower end thereof connecting with a bell crank lever 63, the opposite end of this lever being pivotally secured to the operating bar 64, which extends along the frame 5, passing through the guide-loops 65, and terminating in an upwardly bent portion 66. A coil spring 67 is carried by this bar 64, one end thereof bearing against one of the guide loops 65, while the opposite end comes in contact with the upwardly bent portion, 66. A curved shoe, 68 is secured to the outer end of this bar 64, and is adapted to project beyond the frame 5 and lie in close proximity to the car tracks.

The mail car or engine tender (not shown) has a downwardly extending foot (shown in dotted lines, Fig. 1) secured thereto which is arranged so that it will come in contact with the shoe 68.

From the foregoing description the operation of my device will be seen to be as follows: When it is desired to deliver a mail bag or other package to a moving train, the front end of the platform is stepped upon by the operator. The operator then pulls the rod 14 downward against the tension of the spring 16, secures the ring on one end of the bag to the clip 24<sup>a</sup>, and then secures the ring on the other end of the bag in the clip 24<sup>a</sup> carried by the rod 10. On releasing the rod 14, it instantly moves upward under the action of spring 16, whereby the bag is stretched to its full length and held taut in its extended position. The connecting link 24, which is loosely connected to the arm 14, and which has free vertical movement, but is prevented from lateral movement by means of the guide loops 27, will be pressed downwardly by the downward movement of the arm 14.



The trip 26 which is pivotally connected to the link 24 will be operated by the downward movement of the link 24, the enlarged end 28 of the trip, being raised, while the rear end will be depressed.

The added weight of the operator to the front end of the platform will cause the depression of this end until it comes in engagement with any suitable stop 69, which relieves that part of the apparatus from understrain. It will be seen that as the rear end of the platform is forced upward, by the added weight on the front end thereof, the levers 32 will be thrown forward thus operating the bell crank levers 35. These levers 35, it will be remembered are connected to the links 38 which upon being forced rearwardly on the rod 43, will carry the collar 44 before it. The sliding sleeve 45 which is mounted on the rod 43, in back of the collar 41, will be forced rearwardly until the aperture in the under face thereof, reaches a point opposite the catch 47, which will immediately spring to engagement therein, whereby the sleeve is locked against movement. It will thus be seen that the device is now what might be termed, set.

Further it will be seen that the coil spring 57 one end of which is secured to the flexible belting 54, is under tension, by reason of the fact that the sleeve 45 to which the belting is attached is in its locked position. As soon as the foot carried by the mail car, comes in contact with the shoe 68, the bar 64 will be pressed rearwardly thus operating the bell crank lever 63, which in turn elevates the lever rod 62. The bifurcated head 61 of the said rod, will come into engagement with the stop rod 58, which will be raised free of the recess and in alinement with opening 60. Upon the stop rod 58 reaching this position the spring 57 will contract thus drawing the belting 54 downwardly, which in turn, will pull the entire frame 9, 10, 11 and 14 forward into delivering position.

Upon the removal of the mail pouch from the clip elements 24<sup>a</sup>, by the catcher arm (which is secured to the mail car, but which is not shown in the drawing), the arm 14 will be forced back into normal position by the spring 16.

The link 24 will of course be drawn upward, whereby the enlarged head of the trip will be dropped downward on top of the trigger 50 (see Fig. 3) which will force the spring catch 47 upwardly out of engagement with sleeve 45.

The coil springs 12 and 13 which were compressed by the forward movement of the bar 11 will now expand, thus throwing the said bar which carries the bag holding arms 10 and 14 back to its normal position and consequently out of danger of being struck by any of the remaining cars or projections thereof.

What I claim is—

1. In an apparatus for the delivery of mail bags to moving trains; a stationary support, a bag supporting device reciprocable horizontally to delivery position, secured to said stationary support; means normally retracting said member to withdrawn position and means under control of the moving car for projecting said bag supporting device toward the moving car and into delivery position.

2. In an apparatus for the delivery of mail bags to moving trains; a stationary support, a bag supporting device reciprocable horizontally to delivery position, secured to said stationary support, means normally retracting said device to withdrawn position, and means under control of the moving car for projecting it toward the moving car and into delivery position, said means comprising a projecting power, a stop normally resisting said projecting power, and a connection through which said stop is displaced by the moving car.

3. In an apparatus for the delivery of mail bags to moving trains, a stationary support, a bag supporting device reciprocable horizontally to delivery position, means normally retracting said member to withdrawn position, means under control of the moving car for projecting it toward said car and into delivery position, said means comprising a projecting power and a releasable connection between said projecting power and the bag supporting device.

4. In an apparatus for the delivery of mail bags to moving trains, a bag supporting device movable to delivery position, means normally retracting said member to withdrawn position, means under control of the moving car for projecting it into delivery position comprising a projecting power, and a releasable connection between said projecting power and the bag supporting device, and means controlled by the presence of the mail bag for releasing said connection.

5. In an apparatus for the delivery of mail bags to moving trains, a bag supporting device reciprocable to delivery position, means normally retracting said member to withdrawn position, means under control of the moving car for projecting it into delivery position comprising a projecting power, a releasable connection between said projecting power and the bag supporting device, and a setting lever adapted to move said releasable connection into engagement with the bag supporting device while the latter is in its withdrawn position, and thereby tension the projecting power.

6. In a mail bag delivery apparatus, the combination of a bag supporting device reciprocable to delivery position and having means tending to withdraw it therefrom, a



- projecting power having a releasable connection with the bag supporting device and adapted to project the latter when said connection is made, a stop resisting the movement of the supporting device to delivery position and a connection adapted to be controlled by a moving vehicle for withdrawing said stop to permit the supporting device to be projected into delivery position.
7. In a mail bag delivery apparatus, the combination of a bag supporting device movable to delivery position and having means tending to withdraw it therefrom, a projecting power having a releasable connection with the bag supporting device and adapted to project the latter when said connection is made, a stop resisting the movement of the supporting device to delivery position and a connection adapted to be controlled by a moving vehicle for withdrawing said stop to permit the supporting device to be projected into delivery position, said supporting device being provided with a part under control of the bag, constructed to release the connection of the projecting power upon the removal of the bag, to permit the bag supporting device to be returned to withdrawn position.
8. In an apparatus for the delivery of mail bags to moving trains, a bag supporting device having arms between which the bag is suspended, said arms being slidable to delivery position, means normally retracting said device to withdrawn position, comprising resilient means acting upon said supporting device in the direction of its retraction and adapted to be compressed by the projecting of said device into delivery position, and releasable means retaining the bag supporting device in delivery position.
9. In an apparatus for the delivery of mail bags to moving trains, a bag supporting device, having arms between which the bag is suspended, said arms being movable endwise to delivery position, means normally retracting said device to withdrawn position, comprising a plurality of springs respectively acting upon said supporting device adjacent its arms and in the direction of its retraction, and adapted to be compressed by the projecting of said device into delivery position and releasable means retaining the bag supporting device in delivery position.
10. In a mail bag delivery apparatus, a bag supporting device movable to delivery position, means normally retracting said member to withdrawn position, means under control of the moving car for projecting it

into delivery position comprising a projecting power, and a releasable connection said connection comprising a collar, slidably secured to the supporting device, and connected with the projecting power, a catch secured to the movable device and means for forcing said collar into engagement with said catch, whereby the collar will be locked to the movable device.

11. In an apparatus for the delivery of mail bags, to a moving train, a bag supporting device, arms between which the mail bag is suspended, secured to said device, the portion adjacent to the outer end of the said arms being flattened, an angular lip secured to the extreme end of said arms, catches resiliently secured to the flattened portions thereof, the outer ends of said catches being deflected whereby a space for the reception of the loop of the mail bag will be formed between the catches and the said lip.

12. In a mail bag delivery apparatus, a support, a bag supporting frame movable into delivery position, secured thereto, a platform pivotally connected to the said support, connecting means between said platform and frame, for setting the said frame.

13. In a mail bag delivery apparatus, a bag supporting frame having arms extending therefrom, one of said arms being yieldably secured thereto, and adapted to be depressed by the weight of the mail bag, which is secured thereto, means normally retracting said frame to withdrawn position, means under control of the moving car for projecting the frame into delivery position comprising a projecting power, and a releasable connection between said projecting power and the bag supporting frame, a setting lever adapted to move said releasable connection into engagement with the bag supporting frame, while the latter is in its withdrawn position, and means for releasing said connection with the bag-supporting frame, comprising a pivoted trip secured to the standard, and means connecting said trip with the yieldable arm, and causing the trip to disengage the releasable connection from the bag supporting frame, upon the removal of the mail bag from the supporting frame.

The foregoing specification signed at Clifton Forge, Va., this 24 day of Oct., 1908.

J. B. DRISCOLL.

In presence of—

RIVES R. JONES,  
HARRY H. POWELL.