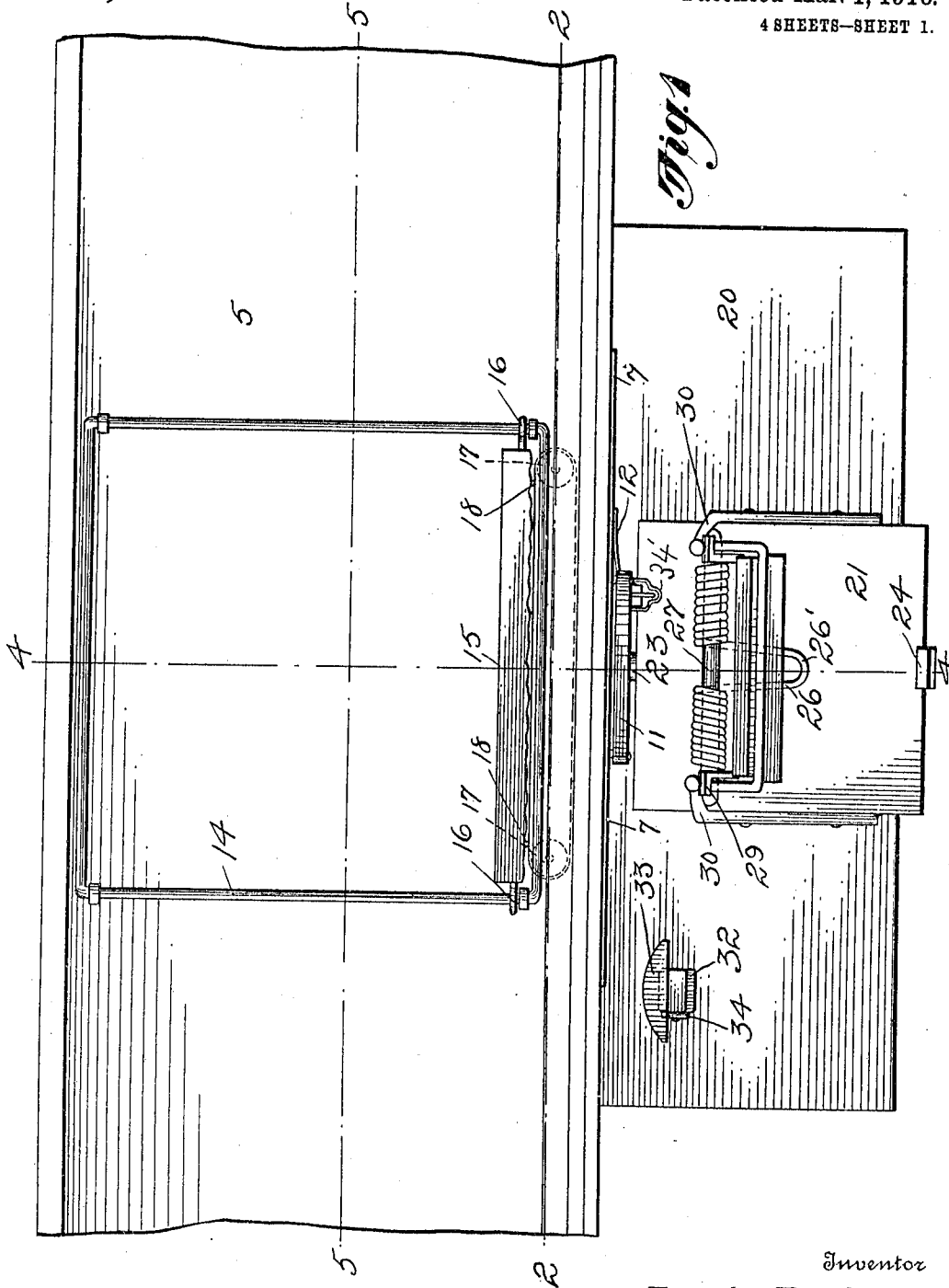


L. BECKER.
AUTOMATIC MAIL DELIVERING APPARATUS.
APPLICATION FILED OCT. 6, 1909.

950,590.

Patented Mar. 1, 1910.
4 SHEETS—SHEET 1.



Witnesses

Wes James
M. L. Lory.

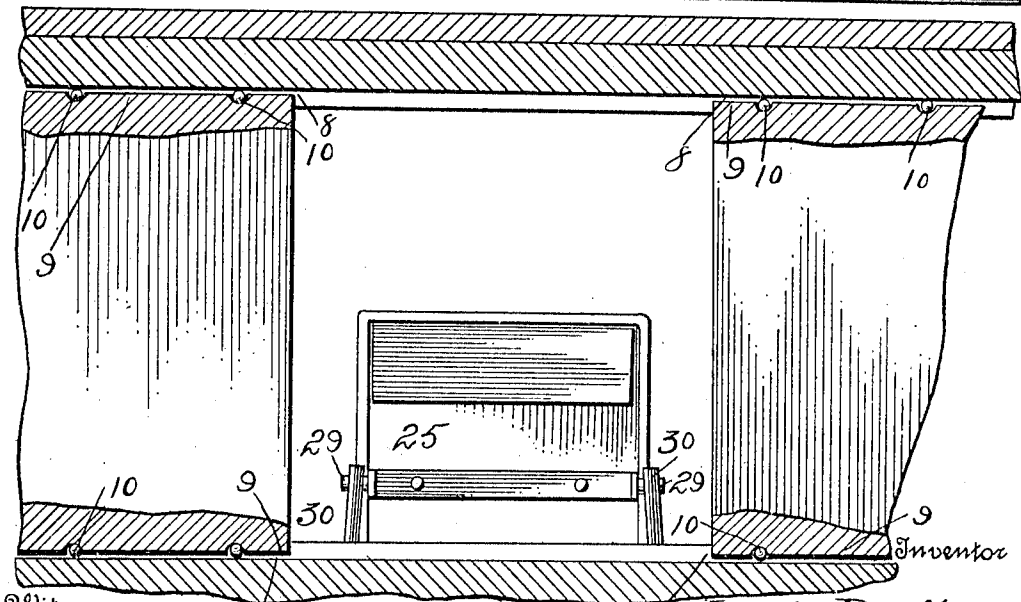
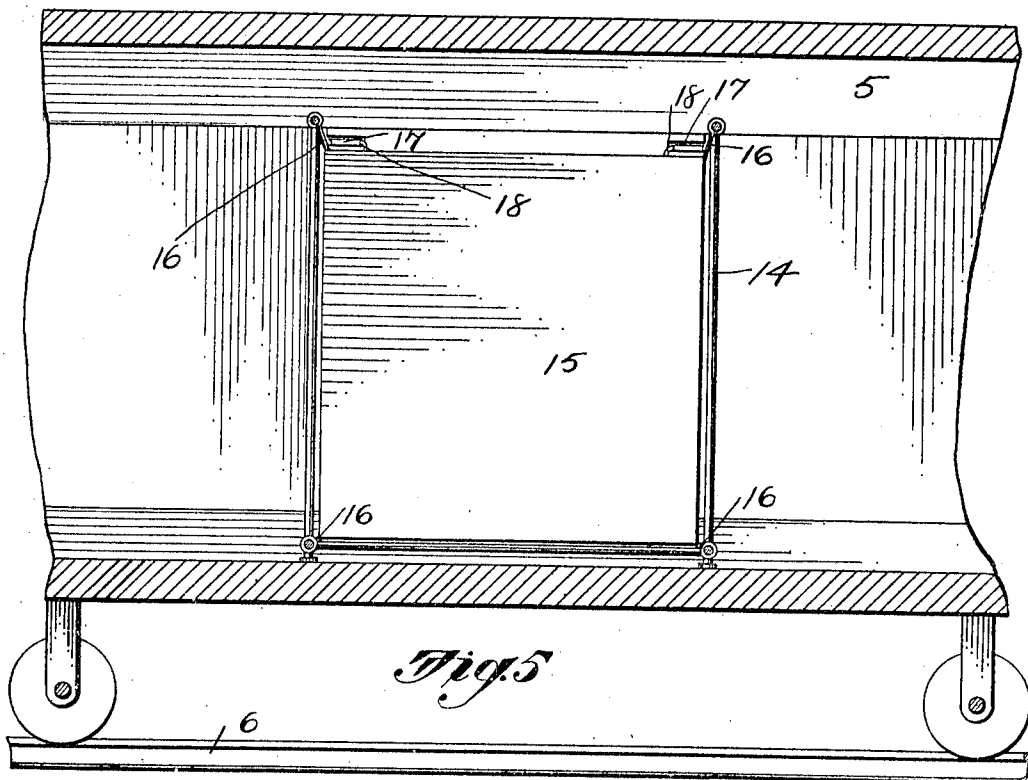
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Fig. 2

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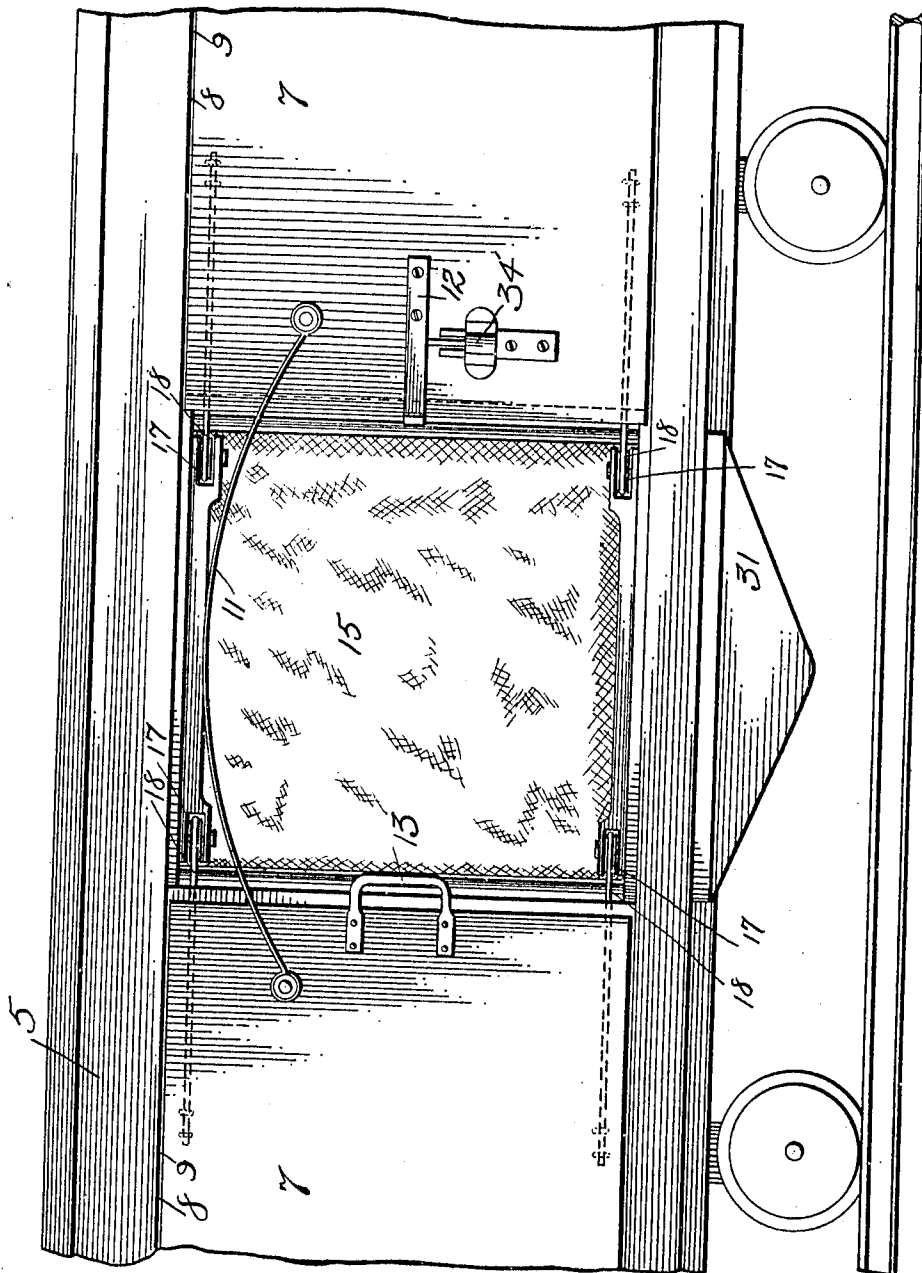
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4 SHEETS—SHEET 3.

Fig. 3



Witnesses

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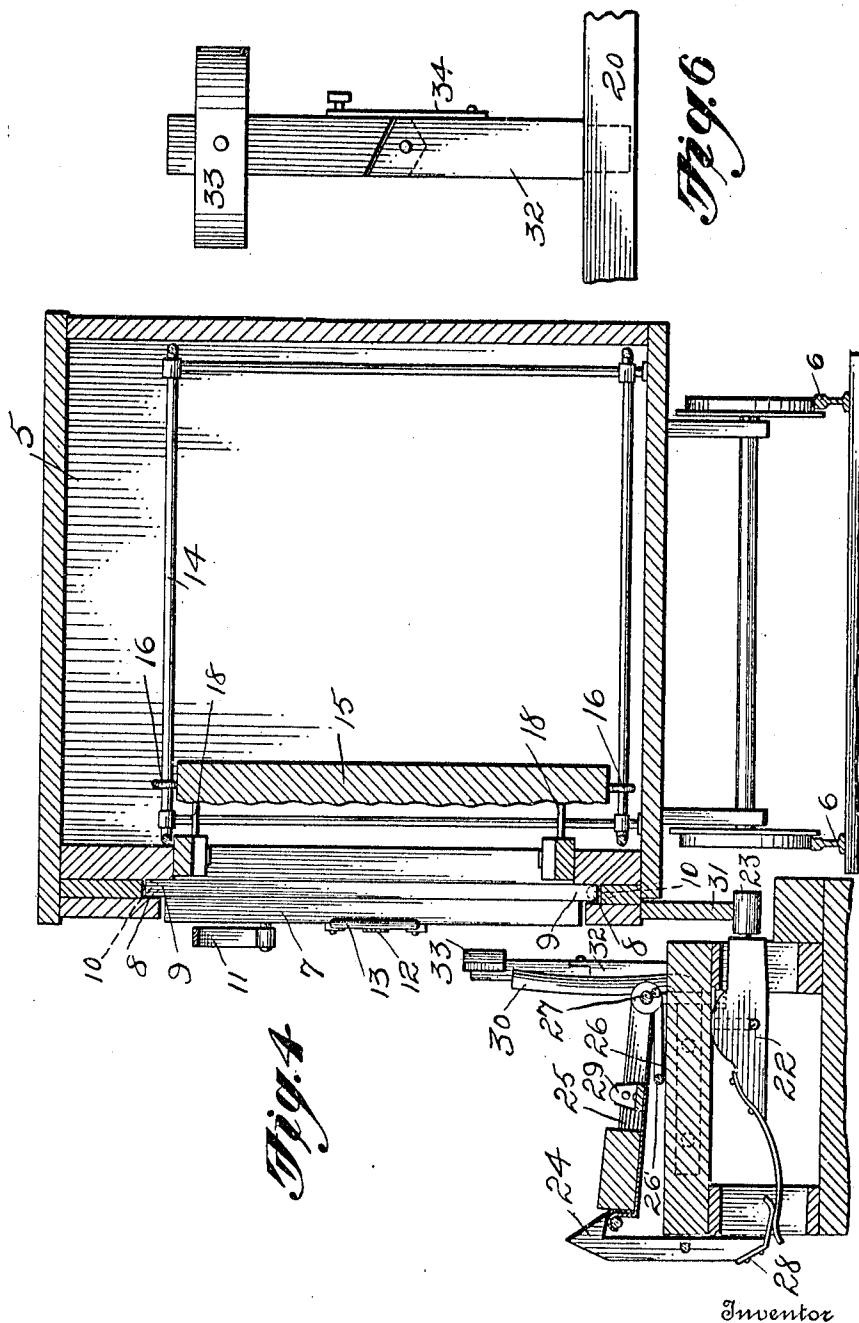
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AUTOMATIC MAIL-DELIVERING APPARATUS.

950,590.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed October 6, 1909. Serial No. 521,205.

To all whom it may concern:

Be it known that I, LOUIS BECKER, a citizen of the United States, residing at Bath, in the county of Brown and State of South Dakota, have invented certain new and useful Improvements in Automatic Mail-Delivering Apparatus, of which the following is a specification.

This invention relates to new and useful improvements in automatic mail delivering apparatus, and more particularly to new and novel means whereby the mail pouches may be automatically delivered to the car while the train is in motion.

The primary object of my invention is to provide a mechanism of this character which will be simple and inexpensive in construction and absolutely positive in its operation.

A further object is to provide a bag delivering or propelling device arranged adjacent to the railroad track, which is adapted to throw the bag violently outward and into the car, suitable means being arranged within the interior of the car and operated by the impact of the bag thereagainst to automatically close the car doors.

A still further object is to provide very novel means positioned adjacent to the railroad track and adapted to engage with suitable means carried by the car, to automatically open the doors at the instant of the delivery of the mail pouch.

With these and other objects in view, the present invention consists in the combination and arrangement of parts as will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a top plan view of my improved mail delivering apparatus, the top of the car being removed, Fig. 2 is a section taken on the line 2—2 of Fig. 1, Fig. 3 is a side elevation of the car, Fig. 4 is a section taken on the line 4—4 of Fig. 1, showing the position of the various parts immediately before the operation of the apparatus, Fig. 5 is a section taken on the

line 5—5 of Fig. 1, Fig. 6 is a detail view of the latch operating arm.

Referring to the drawings 5 indicates a mail car which is mounted upon the tracks 6. The car 5 is provided with the sliding doors 7 which are mounted in grooves or channels 8 formed in the side of the car. The doors are provided at their upper and lower edges with the flanges 9, in which are mounted the anti-friction rollers 10. A leaf spring 11 has its ends secured to the inner edges of the doors, and normally tends to retain the doors in open position. A spring latch bar 12 is secured to one of the doors and engages in a U-shaped keeper bar 13 secured to the other of the doors. The operation of the latch bar and the automatic opening of the sliding doors will be more fully set forth in the following description.

Arranged in the interior of the car there is a wire frame 14, on which is movably mounted the mail pouch-receiving member 15. The frame 14 is substantially rectangular in form, and the member 15 is mounted thereon by means of the eyes 16 which are secured at each of the corners thereof. Arranged at the top and bottom of the car, and upon either side of the center thereof are the pulleys 17, over which the cables 18 pass, the ends of said cables being secured to the pouch receiving member 15, the other ends of the cables being secured to the doors 7.

Arranged in juxtaposition to the car track, there is a mail pouch delivering device, which comprises a base 20, having centrally secured thereto a housing 21. Within this housing a pivoted transversely extending arm is arranged, and is provided upon its forward end with a roller 23. Secured to the rear of the housing is the trigger 24, which is adapted to engage with the delivery plate 25 and retain the plate in a horizontal position against the tension of a spring 26 which is coiled upon the rod 27 on which the delivery plate is pivoted. The spring 26 is coiled from its ends inwardly toward the center of the plate, and is rearwardly extended therefrom as shown at 26'. The rear end of the arm 22 is positioned in an opening formed in the housing, and engages with a spring plate 28 secured to the lower end of the trigger 24. The trigger 24 is loosely secured to the housing, so as to allow a certain amount of transverse pivotal

movement thereof. Extending laterally from opposite sides of the delivery plate 25, are the lugs 29 which are adapted to engage with the stop bars 30 secured to the sides of the housing, and to limit the forward movement of the plate 25. The roller 23 which is engaged by a detent 31 carried by the car. This detent is in the form of a block, the lower edge of which is inclined downwardly from its ends, thus forming a substantially triangular-shaped member. The inclined lower edges of this block are adapted to contact with the roller and as the train moves, the bar will thus be depressed which will oscillate the trigger 24 and release the same from engagement with the delivery plate.

In order to open the car doors at the proper moment, or at the instant when the mail pouch is delivered, I have provided the standards 32 which are mounted in the base 20. These standards are formed in two sections, pivotally connected, the upper section being laterally movable to an operative and inoperative position. The upper ends of these standards are provided with the laterally disposed blocks 33. The outer faces of these blocks are rounded, and are adapted to engage with the end of a pivoted arm 34' which is arranged upon the car door that is provided with the spring latch plate 12. In this manner the latch 12 is released, and the leaf spring 11 will force the doors 7 open. This action will take place at the moment that the trigger is released from engagement with the delivery plate 25, whereupon the mail pouch will be violently thrown into the car.

The upper pivoted portion of the standards 32 may be held in position against lateral movement by means of the pivoted plate 34 which is arranged upon one side of the lower portion of the standard.

The operation of my improved delivery apparatus will be obvious from the above description. After the mail pouches or sacks have been placed upon the delivery plate 25, and the rear edge thereof engaged with the trigger 24, the various parts are in position to be actuated by the approaching train. Presuming that the car doors 7 are closed, the outer end of the pivoted arm 34 will engage with the outer convex face of one of the blocks 33 secured to the standards 32. The inner end of this arm will be moved outwardly, and as it is engaged behind the latch bar it will be seen that the bar will be moved outwardly and disengaged from the keeper 13. The leaf spring 11 which is arranged between the inner edges of the doors will immediately force the doors to open position. When the doors are thus opened, the delivery mechanism is actuated as before described and the sack or pouch discharged from the plate 25 and thrown violently for-

ward through the opening in the side of the car. The force of the delivery of the pouch and the impact resulting therefrom upon the receiving member 15 will move the receiving member inwardly upon the wire frame 14, and as this member is connected to the doors 7 by means of the cables 18, it will be obvious that during the inward or transverse movement of the member 15, the doors will be drawn together and closed. The resiliency of the latch bar 12 is such that it will hold the doors securely closed against the expansive tension of the spring 11, or any possibility of the accidental opening of the doors due to the vibration of the car. While I have shown means by which the doors may be automatically closed, it will be understood that if desired the frame 14 and receiving member 15 together with the pulleys and cables may be eliminated, and the doors closed by the occupants of the car. Owing to the simplicity of construction of the mechanism above described, the automatic operation of the doors is preferred. The time and attention of the mail clerks is also rendered unnecessary, as the apparatus is entirely automatic in its operation, and requires no attention whatever beyond the removal of the mail pouch after the same has been deposited in the car and the doors thereof closed.

The receiving member 15 would preferably be made of canvas or other durable material, and suitably padded, so as to prevent injury to the mail pouches and constant repairing thereof. The various parts of the apparatus are all formed of stock material, whereby the device may be very inexpensively manufactured, and when arranged as above described will provide an efficient and durable delivering apparatus.

What is claimed is:

1. An automatic mail receiving apparatus comprising a car, sliding doors adapted to close an opening in said car, a frame arranged in the interior of said car, a mail bag receiving member movably mounted on said frame, means arranged in juxtaposition to the car track adapted to open said doors, and a mail bag throwing mechanism adapted to be operated by means carried by said car to violently discharge the bag to move the receiving member and close said doors.

2. An automatic mail receiving apparatus comprising a car, sliding doors adapted to close an opening in said car, a frame arranged in the interior of said car, a mail bag receiving member transversely movable on said frame, a latch adapted to close said doors, a spring arranged between said doors to open the same, means arranged in juxtaposition to the car track adapted to operate said latch to open the doors, a mail bag throwing mechanism, and a detent carried by the car adapted to operate said mechanism.

ism and violently discharge the bag against the receiving member, the movement of said receiving member closing said doors against the expansive action of said spring.

5 3. An automatic mail receiving apparatus comprising a car, sliding doors adapted to close an opening in said car, a frame arranged in the interior of said car, a mail bag receiving member transversely movable upon
10 said frame, pulleys arranged in said opening at the top and bottom of the car, cables secured to said doors and to the receiving member and passing over said pulleys, a spring disposed between said doors at the
15 bottom thereof and adapted to open the same, a spring latch bar adapted to hold said doors closed against the expansive action of said spring, means arranged in juxtaposition to the car track adapted to operate said
20 latch bar and open said doors, a mail bag throwing mechanism, a detent carried by said car adapted to operate said mechanism and violently discharge the bag against the receiving member, the impact of said bag
25 moving said receiving member inwardly and closing said doors.

4. An automatic mail receiving apparatus comprising a car, sliding doors adapted to close an opening in said car, a frame arranged in the interior of said car, a mail bag receiving member movably mounted on said frame, said members being connected to said doors and adapted to automatically close the same, a spiral spring having its ends secured to said doors, said spring normally acting to open said doors, a spring latch bar adapted to retain said doors in closed position, a pivoted arm engaging with said latch bar to release the same, blocks arranged adjacent to the car track, said blocks being movable into and out of the path of movement of said pivoted arm, a spring actuated bag throwing plate, and means carried by the car to release said plate to violently discharge the bag upon said receiving member as said doors are opened.

5. An automatic mail receiving apparatus comprising a car, sliding doors adapted to close an opening in said car, a movable bag receiving member arranged within the car, said doors being connected to said member and automatically closed by the movement thereof, means normally adapted to open said doors, a spring latch adapted to hold said doors closed, a pivoted arm engaged with said latch and transversely positioned with relation thereto, blocks arranged adjacent to the car track and movable into operative and inoperative position, said blocks being adapted to engage the outer end of said arm to release said latch and open the doors, a mail delivery plate pivotally mounted between said blocks, a spring adapted to be placed under tension, a trigger adapted to retain said plate in a horizontal position un-

der the tension of said spring, and means carried by the car adapted to release said trigger and deliver the mail into the car as the doors are opened.

6. A mail receiving apparatus comprising 70 a car, sliding doors adapted to close an opening in said car, a spring arranged between said doors normally acting to open the same, a spring latch adapted to hold said doors closed, an arm pivotally mounted upon one of said doors and transversely positioned thereon, the inner end of said arm being engaged with the rear face of the latch bar, in combination with a mail delivering device arranged in juxtaposition to the car track 75 and comprising a base, a housing arranged centrally of said base, a delivery plate mounted upon the exterior of said housing upon a lateral bar secured thereto, a spring coiled upon said bar between the sides of said plate, the central portion of said spring being rearwardly extended, an arm pivoted in said housing, said arm extending through an opening formed in the rear of the housing, a trigger pivoted upon the exterior of the 80 housing and engaged with the rear end of said arm, the forward end of said arm having a roller secured thereto, a block carried by said car having lower inclined edges adapted to engage with said roller to release 85 the trigger from engagement with said delivery plate, stops secured to the sides of said housing to limit the forward movement of said delivery plate, and means supported upon said base and engaging with the outer 90 end of said pivoted arm to open said doors upon the actuation of the mail delivering mechanism.

7. A mail receiving apparatus comprising a car, having an opening therein, doors movable over said opening, means arranged upon the interior of said car and connected to said doors adapted to close the doors upon the delivery of the mail bag to the car, in combination with a delivery apparatus comprising 105 a base, a housing arranged upon said base, a spring actuated delivery plate pivoted upon a laterally positioned bar secured upon said housing, lugs extending from the sides of said plate, stops secured to the sides of said housing adapted to limit the forward movement of said plate, a spring coiled upon said rod between the sides of said plate, a pivoted arm extending longitudinally through said housing, the rear end of said arm being positioned in an opening formed in the housing, a trigger pivoted to the rear of the housing, said trigger having a plate attached to its lower end engaging with said arm, said trigger being adapted to engage with the 110 rear edge of said delivery plate and retain the same in a horizontal position under the tension of said spring, the forward end of said pivoted arm having a roller secured thereto, a block carried by said car adapted 115 120 125 130

to engage with said roller to release said trigger, blocks secured to standards arranged upon the base at opposite sides of said housing, said blocks being movable into and out
5 of operative position, means for holding the blocks in operative position, said blocks being adapted to engage with means carried by one of the car doors to automatically open the same upon the operation of the delivery
10 apparatus.

8. A mail receiving apparatus comprising a car, an opening in one side of said car, said opening being normally closed by suitable doors slidably mounted in the side of the car,
15 a mail bag receiving member movably arranged within the car and connected to said doors, the impact of the bag upon said receiving member being adapted to automatically close said doors, in combination with a

spring actuated mail delivering apparatus 20 arranged adjacent to the car track, means carried by said doors adapted to retain the same in closed position, a leaf spring arranged between the inner edges of said doors
25 tending to open the same, and means pivotally mounted upon one of said doors adapted to contact with members arranged upon either side of the mail delivering mechanism, to automatically open said doors at the instant of the operation of the mail delivering
30 mechanism.

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

LOUIS ^{his} X BECKER.
mark

Witnesses:

W. O. JONES,
G. E. PONTOW.