F. W. STARR.

MAIL BAG RECEIVING AND DELIVERING APPARATUS.

APPLICATION FILED JAN. 6, 1909.

929,891. Patented Aug. 3, 1909.

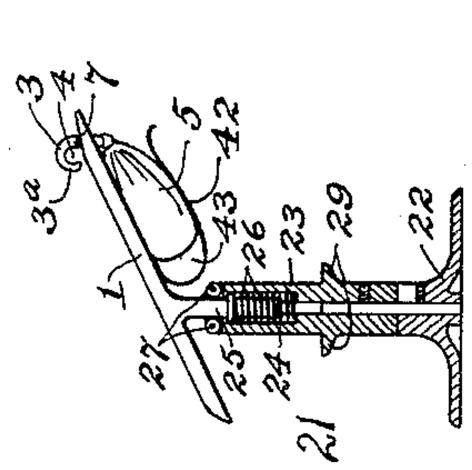

Fig. 3

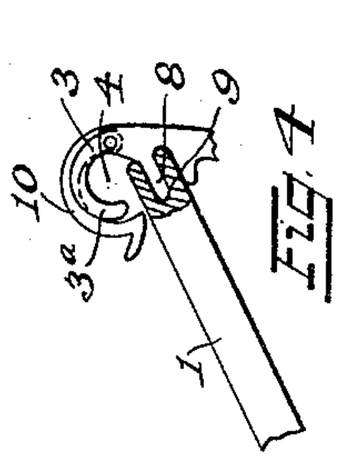

Fig. 4

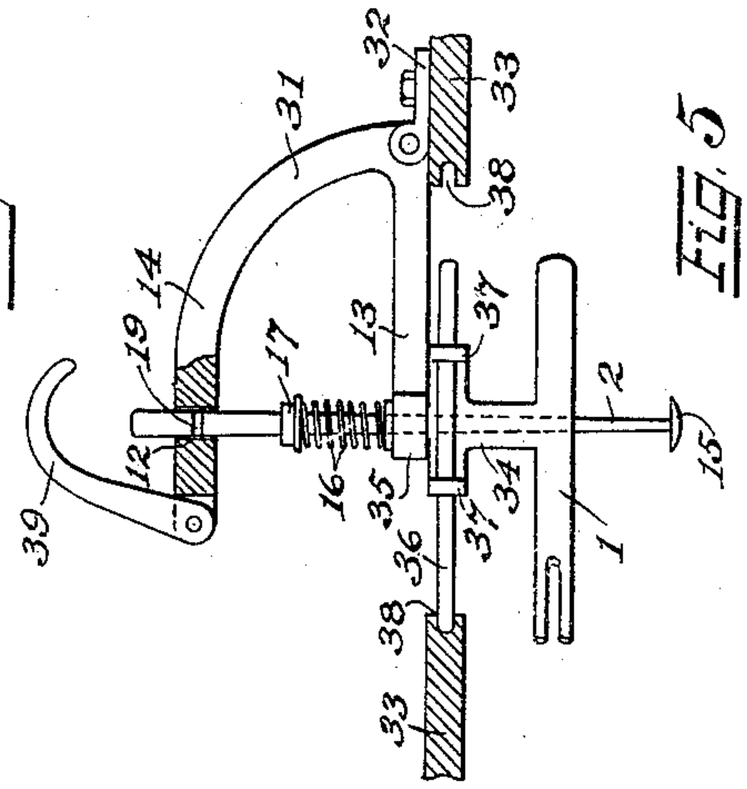

Fig. 5

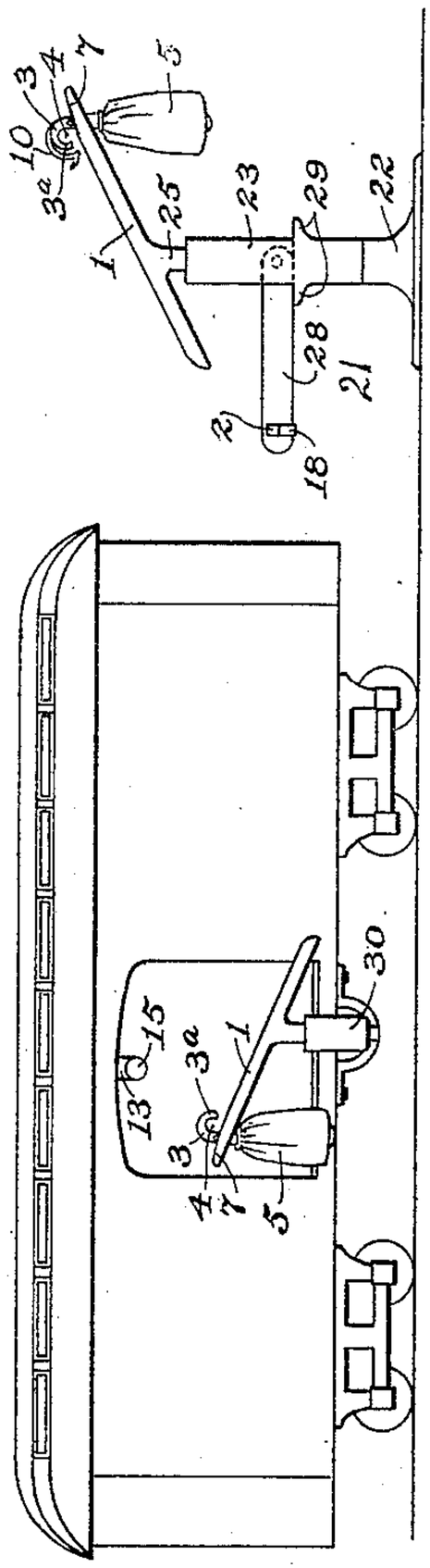

Fig. 1

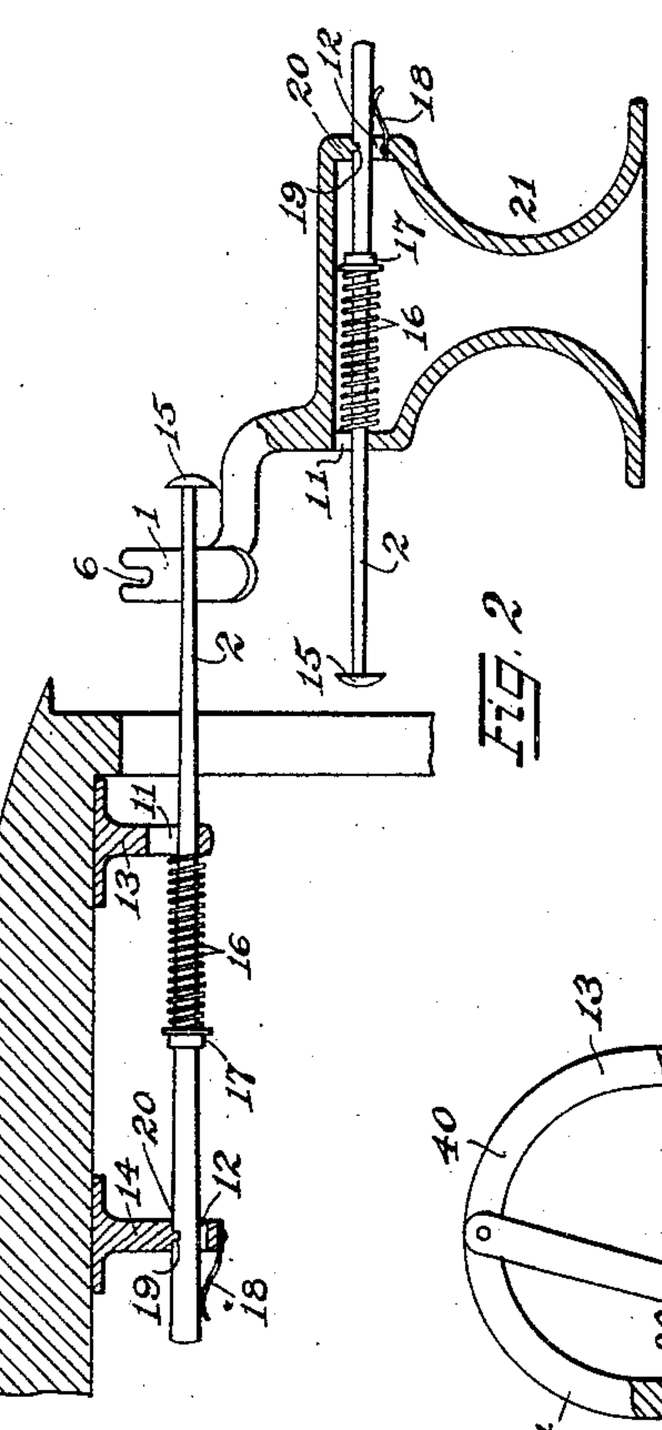

Fig. 2

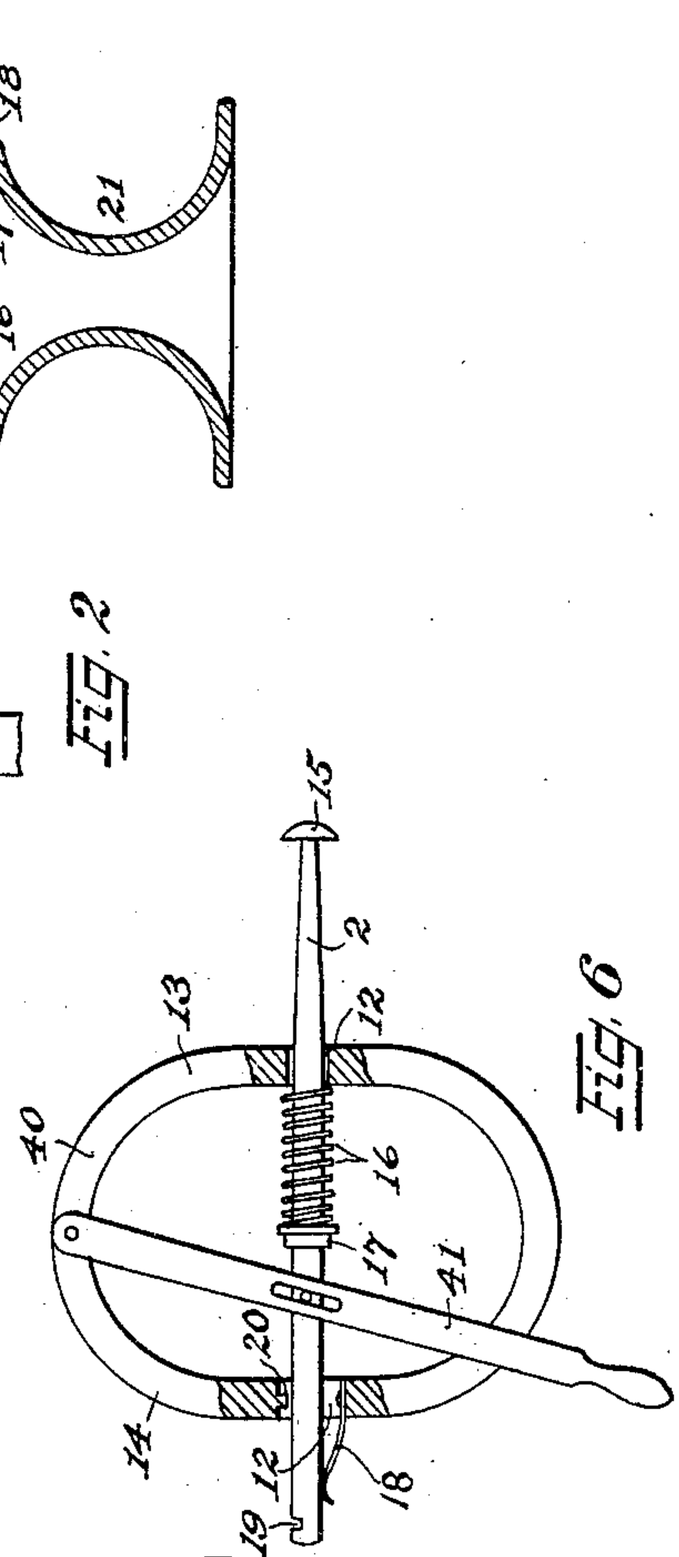

Fig. 6

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UNITED STATES PATENT OFFICE.

FERDINAND W. STARR, OF SPRINGFIELD, OHIO.

MAIL-BAG RECEIVING AND DELIVERING APPARATUS.

No. 929,891. Specification of Letters Patent. Patented Aug. 3, 1909.

Application filed January 6, 1909. Serial No. 470,901.

To all whom it may concern:

Be it known that I, FERDINAND W. STARR, a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, have invented certain new and useful Improvements in Mail-Bag Receiving and Delivering Apparatus, of which the following is a specification.

My invention relates to improvements in mail-bag receiving and delivering apparatus and, more particularly, to means or mechanism whereby mail bags or packages may be expeditiously and safely exchanged with either fast or slow moving cars *i. e.*, received by a car from a station, or delivered to a station from a car, or simultaneously received and delivered either automatically or by the assistance of an attendant.

The primary object of the invention is to provide generally improved mechanism of this class which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

Another object is to so position and resiliently support the respective carriage devices and stationary roadway devices as to cause said devices to contact and coöperate with each other in such a manner as to reduce the liability of disarrangement or breakage of parts to a minimum.

A further object of the invention is to provide improved car or carriage devices and means for mounting the same whereby said devices may be readily and quickly projected or retracted.

A still further object is to provide automatically operating mechanism for expeditiously and safely receiving the mail matter upon the car, and for reducing to a minimum the shock incident to the contact of the several carriage and stationary road-way devices in the exchange of mail matter to and from a swiftly moving car.

With the above mentioned and other objects in view, the invention consists in the novel construction, arrangement, and combination of parts, hereinafter described, illustrated in the accompanying drawings, showing several embodiments of my invention, and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1, is a side elevation of a railway mail-car or carriage equipped with car devices, and stationary road-way devices, embodying my invention, the parts being shown in a position to simultaneously receive and deliver a mail bag. Fig. 2, a rear view of same, the road-way devices appearing in modified form. Fig. 3, a longitudinal sectional view of the road-way pedestal, the inclined bag-suspending-bar carried thereby being provided with an attachment for temporarily receiving and containing the mail bag. Fig. 4, a detail view of a modified form or method of attaching and supporting the bag-hook on the inclined bar. Fig. 5, a rear elevation of a modified form of car mechanism for carrying and projecting the transversely disposed hook-engaging-bar or catcher-bar, and, in this instance, for also carrying and projecting the inclined bag-suspending-bar. Fig. 6, a similar view of another form of mechanism for carrying and projecting the hook-engaging-bar.

Similar numerals of reference designate like parts throughout all the figures of the drawings.

The invention, in its primary embodiment, comprises an inclined bag-suspending-bar provided with a bag-hook having its open end extending toward the inclination of said bar, and a transversely-disposed hook-engaging-bar adapted to travel across said inclined bar and engage with and carry away said bag-hook, the latter being adapted to carry the mail-bag or package by being attached or secured thereto in any suitable and convenient manner.

The car devices and stationary roadway devices for simultaneously receiving and delivering mail matter from and to a passing car, each comprise a longitudinally extending inclined bag-suspending-bar 1, and a transversely disposed and projecting hook-engaging-bar 2, adapted to travel over the inclined bag-suspending-bar of the opposing and coöperating car or roadway device, as the case may be, and to engage with and carry away an upwardly-projecting bag-hook 3, carried by the bag-suspending-bar with the nose 3^a, and throat 4, thereof extending toward the inclination of said bar. The bag-hook 3, is adapted to carry a mail-bag or package 5, by being attached thereto in any suitable and convenient manner, and the bag-hook 3, is preferably mounted at the upper or elevated free end of the suspending bar 1, by having its shank or neck portion take into a longitudinal slot 6, and said shank or neck portion may be provided with

a small cross pin 7, to engage with the forked ends of the bar and support the bag hook in its proper projected or elevated position for being engaged by said hook-engaging-bar 2, above referred to. If desired, the bag-hook 3, may be supported by means of a supporting-pin 8, formed integral with the stem of the bag-hook and normally resting in a socket opening 9, at the upper or elevated end of the bag-suspending-bar, as shown in Fig. 4, of the drawings.

It is highly desirable, if not necessary, that the bag-hook shall be so supported and maintained relative to the bag-suspending-bar and incoming hook-engaging-bar that said incoming hook-engaging-bar shall be permitted to freely and completely enter the throat of the bag-hook before the latter is substantially moved, or carried off of, said bag-suspending-bar, and as a means for providing for ease of entrance of the hook-engaging-bar into the throat of said bag-hook as well as insuring the safe attachment of the latter with the former when so engaged, the bag-hook may be provided with an auxiliary or second hook in the form of a gravity latch-hook 10, pivotally secured at its rear to the shank portion of the bag-hook and having its front or free end normally closing the hook-entrance, and when the bag-hook is being carried by the bar 1, normally resting on the bearing or top surface of the bar 1, as shown most clearly in Figs. 1, and 4, of the drawings.

The bag-suspending-bars may be supported in any suitable and convenient manner, preferably, by means of supporting brackets, standards, or pedestals as hereinafter described, and the hook-engaging-bars may be transversely supported and projected with respect thereto and in proper coöperative relationship therewith in a similar manner, preferably, by being slidably-mounted in front and rear guide-ways or bearing openings 11, and 12, of suitable bearing arms or brackets 13, and 14. The outer or projected ends of the hook-engaging-bars are preferably provided with hook-heads, in the present instance, in the form of disk-shaped hook-heads 15. The guide-ways or bearing openings 11, and 12, are slightly elongated vertically so as to permit of a slight vertical movement of the hook-engaging-bars carried thereon.

In the form or embodiment of my invention illustrated in Figs. 1, 2, 5, and 6, the hook-engaging-bar carries a surrounding coil-spring 16, one end of which is adapted to abut against the front member or bracket-arm 13, and the other abutting against a resilient stop or buffer-head 17, securely mounted on said hook-engaging-bar. The rear or inner end of the hook-engaging-bar is normally pressed upwardly in the bearing-opening or guide-way 12, of the rear member or bracket 14, by means of a spring 18, suitably fastened at its base to the bracket 14, and having its free end passing against the under side of the bar. The hook-engaging-bar is adapted to be moved outwardly or projected for coöperative relationship with an opposing inclined bag-suspending-bar by being pressed against the resistance of the coil-spring 16, whereby said spring is compressed and said hook-engaging-bar will be temporarily engaged and held in its projected position by means of a notch 19, engaging with a detent 20, extending downwardly into the bearing-opening or guide-way 12.

When the outer or projected end of the hook-engaging-bar comes in contact with and rides upon the inclined bag-suspending-bar, it is evident that this end of the hook-engaging-bar will be elevated and upon reaching the upper end of the guide-way 11, the rear or inner end of the bar will be lowered or depressed against the resistance of the spring 18, whereby the notch 19, will be thrown out of engagement with the detent 20. When the inner or rear end of the bar is thus disengaged the bar will be thrown inwardly or restricted by the action of the coil spring 16, but if the projected or free end of the bar has not passed the upper free end of the inclined bag-suspending-bar, it is obvious that the disk head 15, will come into engagement with the side of the inclined bag-suspending-bar and will so remain until the hook-engaging-bar has entered the throat of the bag-hook 3, and has passed the upper or hook sustaining end of the inclined bag-suspending-bar, at which time the spring 16, will carry the bar 2, to its extreme inner position, the stop or buffer-head 17, being adapted to strike against the inner bearing arm or bracket 14.

The hook-engaging-bar 2, when carried by a car, may be so attached relative to its inward or retracting movement as to cause the mail bag carried thereby to be either drawn to the side of the car, or if desired, to be drawn through the doorway of the car and entirely within the latter.

The inclined bag-suspending-bar comprised in the stationary road-way device is preferably mounted upon a pedestal or supporting standard 21, as indicated in Figs. 1, 2, and 3. The pedestal may comprise a base portion 22, carrying a supporting stem or standard 23. The stem or standard 23, is provided, in the present instance, with a vertical bearing opening 24, adapted to receive and contain a vertical supporting stem or shank 25, of the inclined bag-suspending-bar. The supporting stem or shank is preferably vertically movable in the bearing-opening 24, and is adapted to operate in its downward or depressed movement against the resistance of a surrounding coil spring

26. The inclined bag-suspending-bar is preferably mounted so as to be held parallel with the railway track, and if desired, the upper portion of the supporting stem or shank may operate in its vertical movement against oppositely-disposed friction guide rollers 27, carried at the upper end of the stem or standard 23.

In the embodiment of my invention shown in Fig. 1, the transversely disposed hook-engaging-bar 2, is carried by a crank arm 28, having its inner end pivotally secured to the stem or standard 23. The crank arm is adapted to be reversed and is supported in a horizontal position by means of integral stop lugs 29. In the embodiment of the invention shown in Fig. 1, the inclined bag-suspending-bar carried by the car is mounted in a bracket 30, and preferably, in such a manner as to have a vertical movement against a coil spring, the mounting in this respect being similar to the mounting of the inclined bag-suspending-bar shown in Fig. 3.

In Fig. 5, I have shown the inclined bag-suspending-bar and transverse hook-engaging-bar of the car mechanism carried by a single bracket 31, said bracket being adapted to be swung about horizontally by being pivoted at one side of the doorway by means of a pivot bracket 32, secured, in the present instance, to the inner side of one of the door jambs 33. In this device the inclined bag-suspending-bar is secured or formed integral with a supporting bracket 34, adapted to be swung about for the reversal of the bag-suspending-bar by being pivoted in a bearing head 35, of the member 13, of the bracket 31, said supporting bracket being secured in its normal position by means of a horizontal latch bolt 36, slidably mounted in guide heads 37, of the supporting bracket 34. The ends of the slidably mounted latch bolt are adapted to fit in bearing sockets 38, formed in the door jambs 33 and 39. A swinging member 39, is pivotally secured to the rear member 14, of the swinging car bracket 31, and is adapted to form a stop guard against which the rear end of the hook engaging bar is adapted to impinge when the latter is retracted. In Fig. 6, I have shown a supporting bracket 40, provided with an operating lever 41, by means of which the hook engaging bar may be moved outwardly to its projected position. If desired, a spring or casing 42, may be secured to the under side of the bag-suspending-bar for the purpose of forming a pocket 43, for the reception of the mail bag to prevent the latter from swinging as shown in Fig. 3, of the drawings.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

Having thus described my invention, without having attempted to set forth all the forms in which it may be made or all the modes of its use, I declare that what I claim and desire to secure by Letters Patent is,—

1. In a mail-bag receiving and delivering apparatus, a pedestal carrying a vertically movable spring-resisted longitudinally extending inclined bag-suspending bar carrying an upwardly-projecting bag-hook having its open end extending toward the inclination of said bar.

2. In a mail-bag receiving and delivering apparatus, a transversely-projected slidably mounted hook-engaging-bar provided at its outer end with a hooked head, said bar being normally projected against the resistance of a spring and engaged at its rear by a detent, said bar being also adapted to be disengaged from said detent when said outer end is elevated.

3. In a mail-bag receiving and delivering apparatus, a carriage device comprising a longitudinally swinging bracket carrying a laterally-projecting hook-engaging-bar, and a vertically rotatable bracket carried by said horizontally swinging bracket and provided with an inclined longitudinal bag-suspending-bar.

4. In a mail-bag receiving and delivering apparatus, a carriage device comprising a swinging bracket carrying a transversely disposed hook-engaging-bar, an inclined horizontally-extending bag-suspending-bar, and an upwardly-projecting bag-hook carried by said bag-suspending-bar and having its open end extending toward the inclination thereof.

5. In a mail-bag receiving and delivering apparatus, a pedestal, an inclined bag-suspending-bar carried by said pedestal and provided at its upper free end with a longitudinal slot, and a bag-hook carried in said slot with its nose and throat extending in the direction of the inclination of said bar.

6. In a mail-bag receiving and delivering apparatus, a transversely-projected hook-engaging-bar provided at its outer end with a disk-shaped hook-head, and an inclined bag-suspending-bar carrying a projecting bag-hook having its open portion extending in the direction of the incline and adapted to be engaged by said hook-engaging-bar.

7. In a mail-bag receiving and delivering apparatus, a carriage device comprising a horizontally swinging bracket pivotally mounted at one side of the carriage door and provided with bearing guide-ways, a laterally-projecting hook-engaging-bar slidably-mounted in said bearing guide ways, a swivel-bracket carried by said horizontally swinging bracket and provided with a longitudinally-extending inclined bag-suspending-bar, a bag-hook carried by said bag-suspending bar, means for locking said hook-engaging-bar in its extreme projected posi-

tion, and means for retracting said bar when released from said locking means.

8. A mail-bag receiving and delivering apparatus, comprising an inclined longitudinally-extending bar, a bag-hook carried by said bar and having its open portion extending toward the inclination of said bar, and a hook-engaging-bar extending transversely to said inclined bar and adapted to engage and carry said bag-hook off of said inclined bar.

9. A mail-bag receiving and delivering apparatus, comprising a pedestal carrying an inclined bag-suspending-bar, and a transverse hook-engaging-bar, a vehicle carrying an oppositely-disposed and arranged inclined bag-suspending-bar and transverse hook-engaging-bar, and upwardly-projecting bag-hooks carried by said inclined bars with their open ends extending toward the inclination of said bars, said transverse hook-engaging-bars being adapted to ride upon said inclined bag-suspending-bars and engage and carry off said bag-hooks during the passing of said vehicle.

10. A mail-bag receiving and delivering apparatus, comprising an inclined bag-suspending-bar provided at its upper free end with a bag-hook having its open end extending toward the inclination of said bag-suspending-bar, and a transverse hook-engaging-bar adapted to travel across said inclined bar and engage and carry away said bag-hook.

11. In a mail-bag receiving and delivering apparatus, the combination with an inclined bag-suspending-bar carrying an upwardly projecting bag-hook having its open end extending toward the inclination of said bar; of a transverse slidably-mounted hook-engaging-bar provided with a hook-head and adapted to travel upon said suspending bar and to engage said hook, means for locking said hook-engaging-bar while in its projected position, means for disengaging said locking means when the projected end of said hook-engaging-bar is elevated by engagement with said inclined bag-suspending-bar, and means for retracting said bar when so disengaged whereby said hook-head is brought into engagement with said bag-suspending-bar and whereby said hook-engaging-bar is fully retracted when in engagement with said bag-hook and out of engagement with said bag-suspending-bar.

12. A mail-bag receiving and delivering apparatus, comprising a pair of oppositely-disposed and arranged inclined bag-suspending-bars and transversely-projected hook-engaging bars, upwardly-projecting bag-hooks carried by the upper free ends of said inclined bars and having their open ends extending toward the inclinations thereof, said hook-engaging bars being projected against the resistance of coiled springs and engaged in their projected position by fixed detents, said hook-engaging-bars being adapted to contact with and ride upon said inclined bag-suspending-bars whereby the latter are disengaged from said detents and provided with hooked heads engaging with said inclined bag-suspending-bars to prevent their withdrawal until in engagement with said bag-hooks.

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

FERDINAND W. STARR.

Witnesses:
GEO. S. DIAL,
H. H. STARR.