No. 611,094. Patented Sept. 20, 1898.

J. BALE & A. E. LAPHAM.

DEVICE FOR RECEIVING AND DELIVERING MAIL POUCHES FROM MOVING TRAINS.

(Application filed Mar. 5, 1898.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

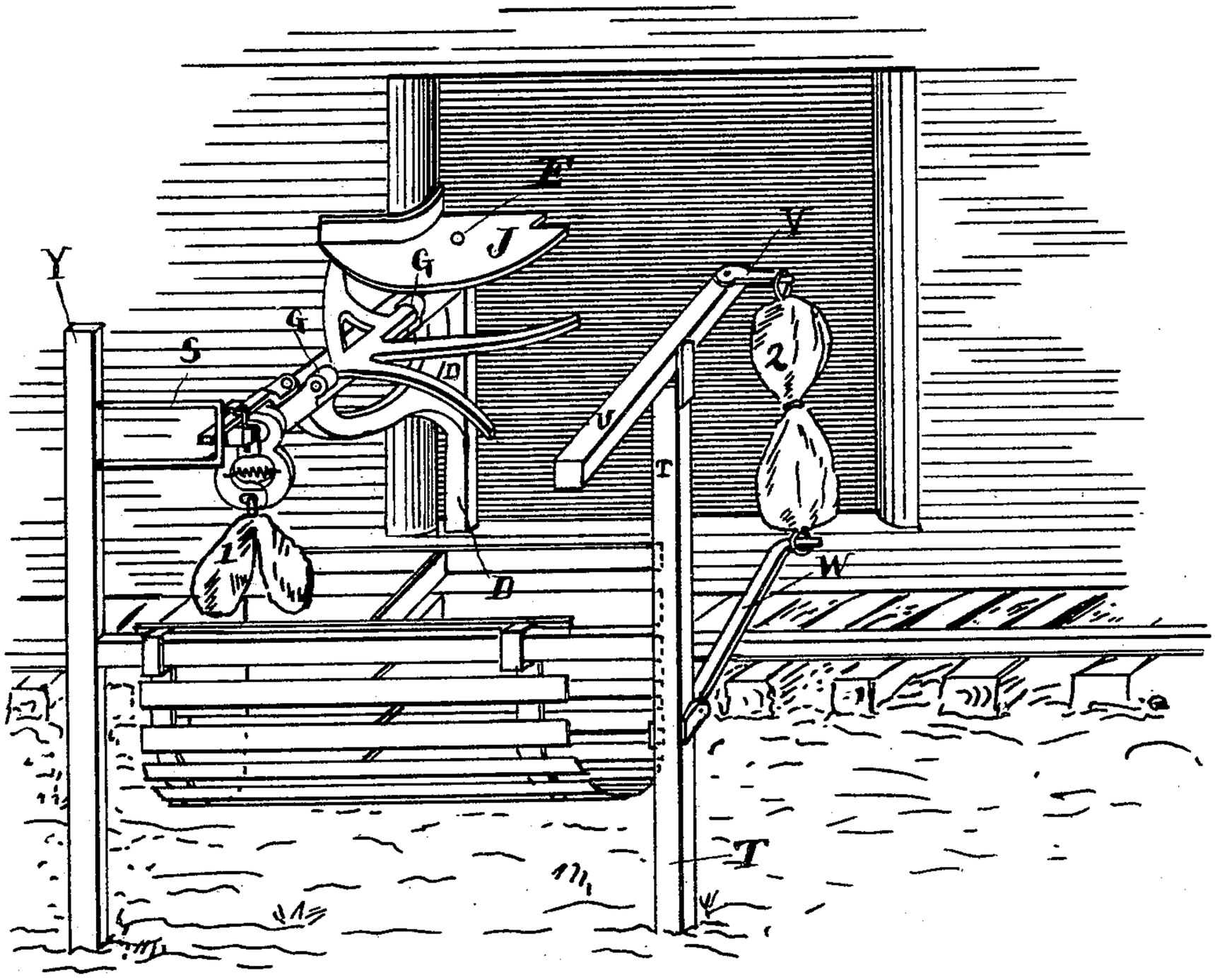

Fig. 4

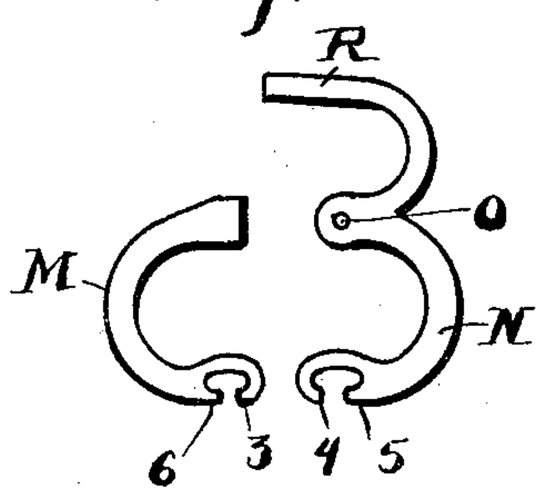

Fig. 5

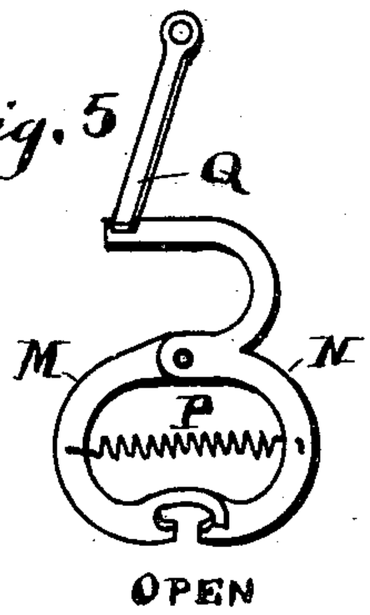

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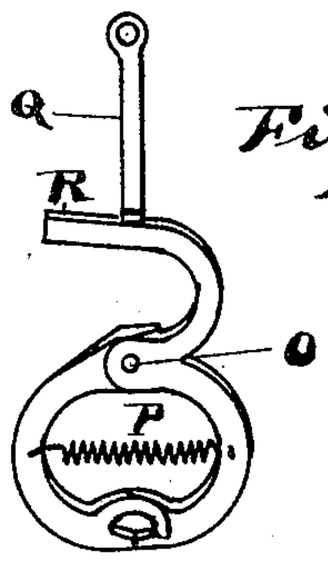
Fig. 6



SHUT.

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DEVICE FOR RECEIVING AND DELIVERING MAIL POUCHES FROM MOVING TRAINS.

(Application filed Mar. 5, 1898.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2

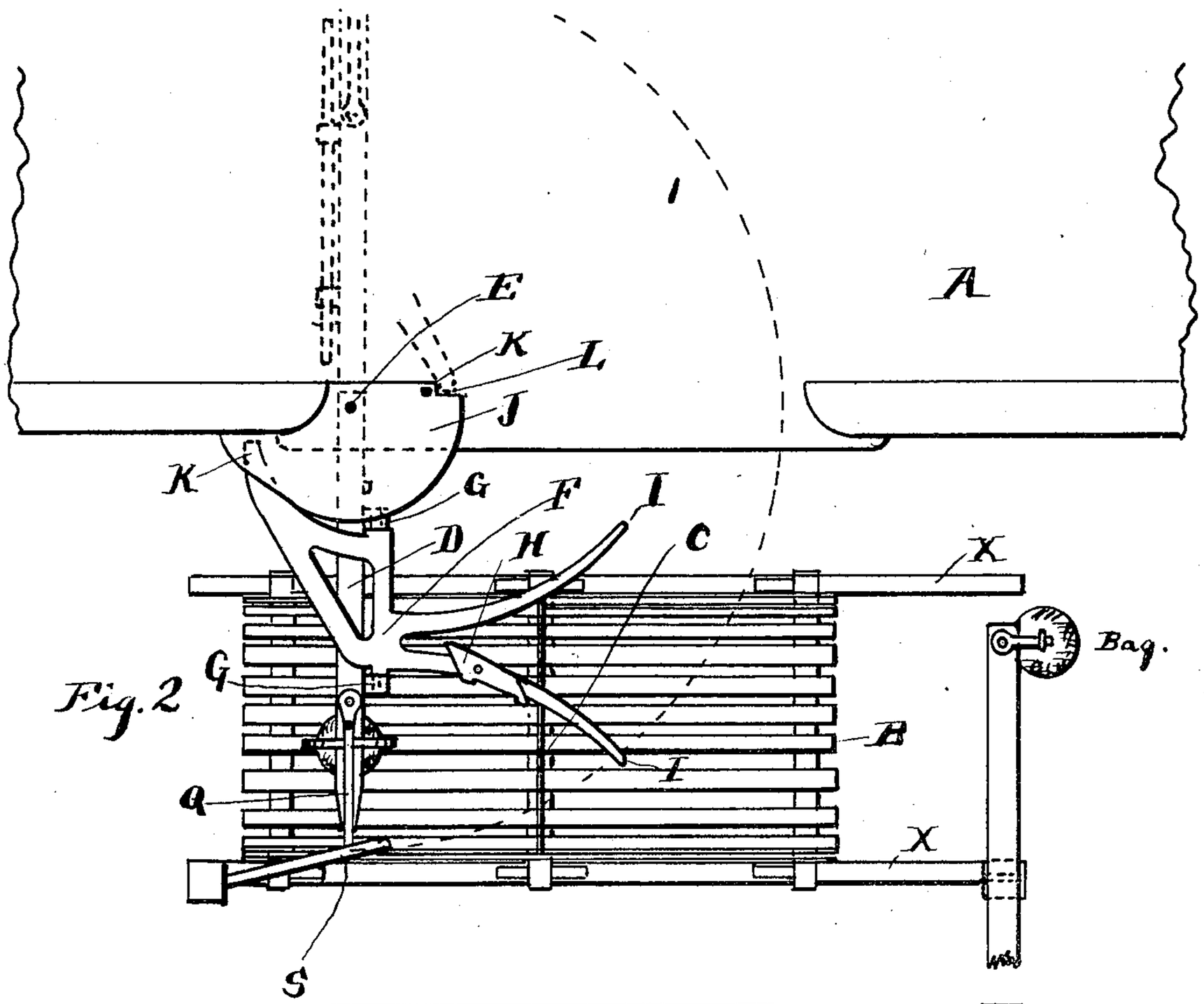
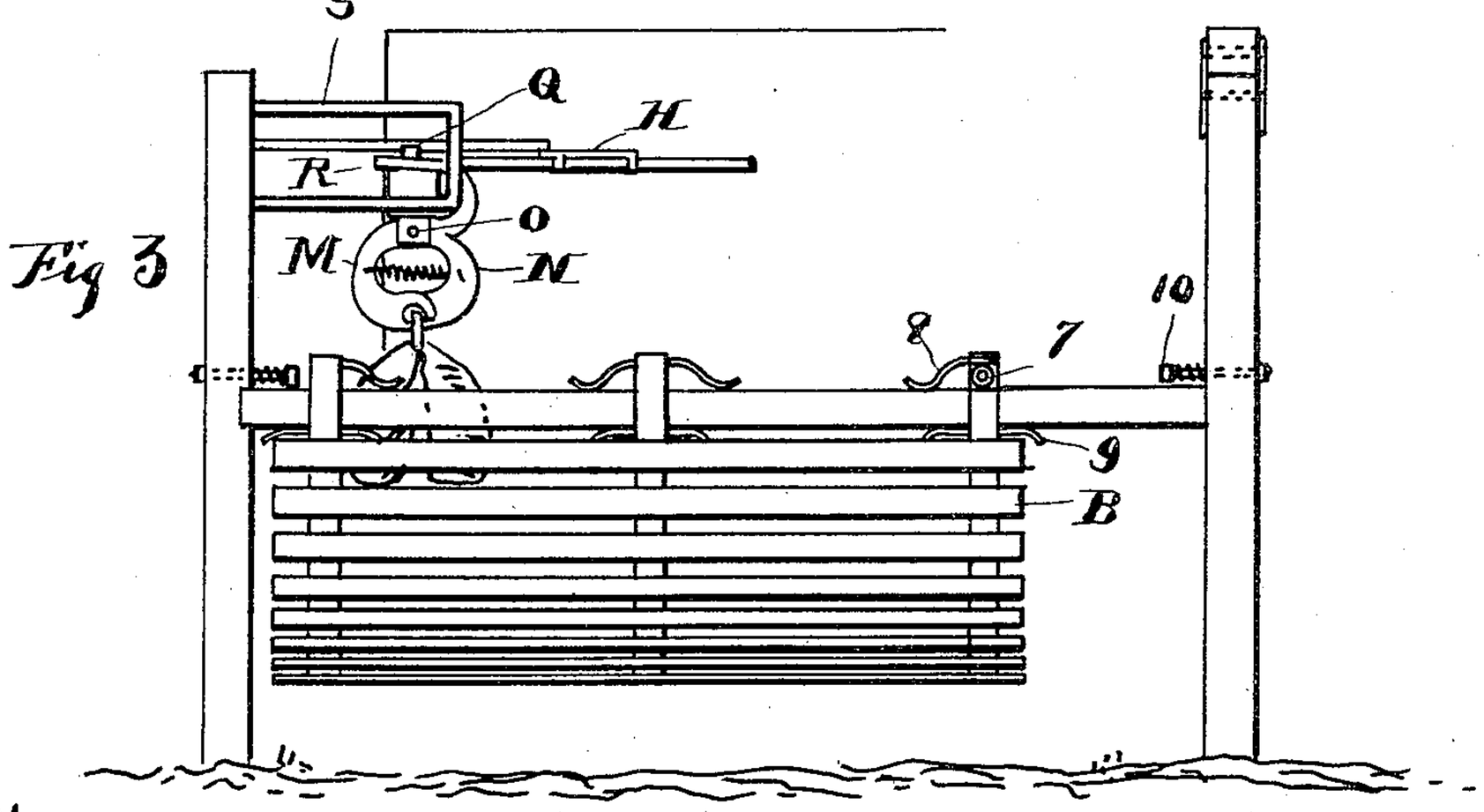


Fig 3



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UNITED STATES PATENT OFFICE.

JAMES BALE AND ANSON E. LAPHAM, OF PAW PAW, MICHIGAN.

DEVICE FOR RECEIVING AND DELIVERING MAIL-POUCHES FROM MOVING TRAINS.

SPECIFICATION forming part of Letters Patent No. 611,094, dated September 20, 1898.

Application filed March 5, 1898. Serial No. 672,711. (No model.)

To all whom it may concern:

Be it known that we, JAMES BALE and ANSON E. LAPHAM, citizens of the United States, residing at Paw Paw, in the county of Van Buren and State of Michigan, have invented new and useful Improvements in Devices for Receiving and Delivering Mail-Pouches from Moving Trains, of which the following is a specification.

This invention relates to a certain new and useful device for receiving and delivering mail-pouches from moving trains; and the invention consists in a new and useful means for suspending a mail-pouch from a moving train in such a manner that it will be dropped into a suitable receptacle as the train moves by such receptacle, and also suitable means for receiving the mail-pouch from a stationary support by a swinging arm attached to the moving mail-car; and the objects of our invention are, first, the construction of a device which will always release the mail-pouch at the proper moment, so that the same will drop into the stationary receptacle prepared to receive it; second, to combine with the mail-car a swinging crane with suitable gripping-jaws for retaining the mail-pouch and suitable mechanism which may be operated from a stationary trip, and, third, various other objects particularly described and hereinafter pointed out in the specification and claims.

These objects we accomplish by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows a perspective view of our delivering and receiving device, the same being attached to a mail-car and the delivering device being shown in the position in which it is placed just before the jaws are opened to drop the mail-pouch. Fig. 2 represents a plan view, the circular dotted lines showing the direction of movement of the crane when swung around and the straight dotted lines showing the position of the crane and pivoted receiving device when said pivoted receiving device is dropped down, so as to stand perpendicularly. Fig. 3 is a side elevation of the same parts shown in Fig. 2, like parts occupying like positions. Fig. 4 is a detailed view of the retaining-jaws, the two jaws being separated. Fig. 5 is a detached view of the jaws which are adapted to retain the mail-pouch which is swung from the moving car, the said jaws being shown opened or in the position they would occupy at the time the mail-pouch drops or falls from the jaws. Fig. 6 shows the jaws closed in position to retain the mail-pouch and carry the same until said jaws shall have been opened by means of the trip hereinafter described.

Like letters and numerals refer to like parts throughout the several views.

A represents a mail-car provided with a slide-door of the ordinary construction.

B represents the stationary mail-pouch receptacle, which is adapted to receive the mail-pouch when the same has been released from the carrying-jaws. This receptacle is preferably provided with a partition near the center, so that it may be adapted to receive a mail-pouch on either side of said receptacle—that is, the device may be so constructed that a car going in either direction will deposit the mail-pouch into the receptacle B. The partition in the receptacle is shown by C.

D is a crane supported by the mail-car and turning horizontally. This crane supports the carrying-jaws and also the mechanism for closing and opening said jaws.

E shows the pivot on which the crane D is adapted to turn. This is shown in Fig. 2. Attached to the crane is the receiving-arm F, which arm F is carried by the crane and is secured thereto by means of the pivots G G. The pivots allow the arm to turn so as to be dropped down and be placed perpendicularly, when it will assume the position shown by the dotted lines in Fig. 2, from which position it is turned outwardly, so as to be parallel with the door of the car and just outside thereof. When said arm is in position to receive the mail-pouch from its stationary support, it stands horizontally, as shown in Figs. 1 and 2. The arm F is provided with two forks (shown by I I) and is also provided with a spring-catch H. The arm being set in the position shown in Figs. 1 and 2, is brought in contact with the center of the mail-pouch, which mail-pouch passes backward between the forks I I and will be retained in position by means of the spring-catch, when the crane may be swung around so as to carry the mail-pouch into the car. The arm bearing the

forks is provided with a projection on the side opposite the forks I I, the outer end of which may be set so as to pass beneath the plate J, which will retain the arms in horizontal position until the crane is turned, so as to carry the arms within the mail-car and until the point K escapes from the plate J at the point L, as shown in Fig. 2. The object of attaching the arm F to the crane by means of pivots is to allow the same to be turned into a perpendicular position when the crane is folded within the car, so that the same may be out of the way, while it is held in a horizontal position as it is swung out from the car into position to receive the mail-pouch from the stationary support.

Returning now to the jaws which support the mail-pouch to be delivered from the car, M represents the stationary jaw, which is secured rigidly to the crane at or near its outer end.

N represents the movable jaw, which is pivoted to the stationary jaw at O, said pivotal connection being shown in Figs. 3 and 6.

P represents a spring adapted to retain the jaws in position to hold the mail-pouch until the same shall have been released in the manner hereinafter described.

Q represents an arm pivoted upon the crane projecting outwardly beyond the end of the crane proper and adapted to come in contact with the projection R of the movable jaw N. In Fig. 6 the pivoted arm Q is in the position where it is placed just before it begins to open the jaws, while in Fig. 5 the pivoted arm Q is in the position where it has opened the jaws, so that the mail-pouch is dropped from the jaws. The arms after the jaws are opened so as to drop the mail-pouch retain the position shown in Fig. 5, holding the jaws open ready to receive another pouch until the said arm Q is moved backward into the position shown in Fig. 6. The partition C, above referred to, is so placed within the receptacle B as to be moved to any required position within it.

S is a stationary trip supported on a suitable post and placed in position so that when the mail-car carries the mail-pouch support on the crane, as shown in Fig. 1, the end of the arm Q comes in contact with the stationary trip S, which moves the movable jaw N, opening the jaw and releasing the mail-pouch.

In order to construct the holding-jaws so that the mail-pouch will be positively released and cannot remain suspended after the jaws are opened, we have provided the following structure:

3 represents a clearance-hook on the stationary jaw M, its position when the jaws are opened being shown in Fig. 5. 6 shows the lower part of the hook on said stationary jaw M.

4 shows the upper hook on the movable jaw N, and 5 shows the lower hook on the movable jaw N. When the jaws are closed, as shown in Fig. 6, the ring of the mail-pouch is secured within the jaws. When the jaws are opened by means of the trip coming in contact with the arm Q, the jaws M and N are separated and the clearance-hooks occupy the position shown in Fig. 5, so that the ring of the mail-pouch cannot be retained in the jaws and necessarily falls therefrom.

1 shows the mail-pouch hanging in the supporting-jaws.

2 shows the mail-pouch supported on the stationary arm and lever ready to be received by the forks I I.

T represents the supporting post or standard, upon which is placed a lever U, having a weighted end and also having attached to the end opposite the weighted end a pivoted swinging arm V, upon which the mail-pouch 2 is suspended.

In order to retain the mail-pouch in proper position to be received by the forks I I, we provide a pivoted arm W. This method of supporting the mail-pouch in position to be received is the method ordinarily used and is not claimed as any part of our invention. The receptacle for receiving the mail-pouch when dropped from the supporting-jaws is suspended upon horizontal supports X X. The trip S is supported on the post Y. (Shown more fully in Fig. 3.)

In order that the receptacle B may not be held in too rigid a position, we prefer to support it on rollers 7, and also provide friction-springs 8, which will prevent the receptacle from being moved too rapidly, and in order to prevent injury to the receptacle or contents of the mail-pouch we prepare spring-buffers 10 10.

We design to use our receptacle and also our mail-pouch-delivering device in connection with trains moving in either direction, and, if desirable, so that the same may be used in connection with trains moving upon more than one track.

In the drawings we have shown but one clearance-hook upon the stationary jaw, but instead of one there may be two, so that the jaw N at its lower end will pass between these clearance-hooks, although we do not deem it necessary to provide more than one clearance-hook to a jaw.

Having thus described our invention, what we claim to have invented, and desire to secure by Letters Patent, is—

1. In a device for discharging mail-pouches from a moving car, the combination with a mail-car, of a crane pivoted to said car and adapted to swing outwardly carrying with it the mail-pouch, a pair of jaws adapted to close upon the ring of the mail-pouch and retain the same in position, one of said jaws made rigid with the crane, the other jaw adapted to be opened and release the ring of the mail-pouch, an extension on said movable jaw, a pivoted arm on the crane adapted to bear upon the extension of the movable jaw, and a stationary trip supported outside of the moving car adapted to come in contact with said stationary trip for the purpose of open-

ing the jaws and releasing the mail-pouch, substantially as described.

2. In combination with a swinging crane adapted to be swung outwardly from a moving car, a pair of jaws carried by said crane and adapted to grasp the ring of the mail-pouch, one of said jaws rigid with the crane, the other jaw pivoted to the rigid jaw and adapted to open, a projection upon said movable jaw, a pivoted crane, and a trip located outside of the moving car adapted to come in contact with the pivoted arm for the purpose of opening the movable jaw, substantially as described.

3. In combination with a mail-car, a swinging crane adapted to swing outwardly from said car, a pair of jaws carried by the said crane, one of said jaws made rigid with the crane, the other jaw pivoted to the immovable jaw and adapted to open, a pivoted arm adapted to operate the movable jaw, a spring adapted to close said jaws and retain them closed, and a stationary trip supported outside the moving car adapted to come in contact with said pivoted arm and thereby separate the jaws, allowing the mail-pouch to be deposited in a receptacle, substantially as described.

4. In combination with a swinging crane, a pair of clamping-jaws, each jaw provided with an upper and a lower hook, said lower hook adapted to clasp the ring of the mail-pouch and said upper hook adapted to withdraw the ring from the supporting-hooks when the jaws are opened, substantially as described.

5. In combination with a moving car, a crane adapted to swing outwardly into position to receive a mail-pouch supported outside of the moving car, a pair of forks or arms pivoted to the crane adapted to receive the mail-pouch supported outside of the car and provided with a rearward projection, a stationary plate upon the mail-car beneath which the rearward projection or extension of the pivoted forks is adapted to pass in order to retain the forks in a horizontal position to receive the mail-pouch and allow the said forks to be dropped into a perpendicular position when the crane with the forks is turned or swung into the car, substantially as described.

6. In combination with a mail-car, a crane pivotally connected thereto and adapted to swing outwardly and having a horizontal arm, a pair of forks pivotally connected to said horizontal arm and adapted to be raised to a horizontal position when swung outwardly and to be dropped into a perpendicular position when the crane is turned or swung into the car, substantially as described.

7. In combination with the car, a crane adapted to be swung outwardly, a pair of jaws carried by the said crane, one of said jaws rigid with the crane and one pivoted to the rigid jaw and adapted to be opened, a spring adapted to close the jaws, a pivoted arm adapted to engage with the movable jaw to open the same, a stationary trip outside the moving car adapted to come in contact with said pivoted arm, and a receptacle adapted to receive the mail-pouch as it falls from the jaws of the crane, and friction-springs upon the said receptacle, substantially as and for the purpose described.

8. In a receptacle adapted to receive a mail-pouch from a moving car, the combination of the receptacle proper, a partition through the center of said receptacle, parallel ways supporting the receptacle, rollers traveling on said ways supporting the said receptacle, antifriction-springs connected to the receptacle and adapted to move on said parallel ways or in contact therewith, all substantially as described.

9. A receptacle for receiving a mail-pouch from a moving train, in combination with parallel ways supporting said receptacle, rollers between said receptacle and said ways, springs carried by the receptacle and adapted to move in contact with the said ways, and spring-buffers arranged at either end of the said receptacle for the purpose of breaking the stroke caused by the moving of the receptacle upon receiving the mail-pouch from a moving train, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JAMES BALE.
ANSON E. LAPHAM.

Witnesses:
BENJ. F. HECKERT,
W. J. BALE.