

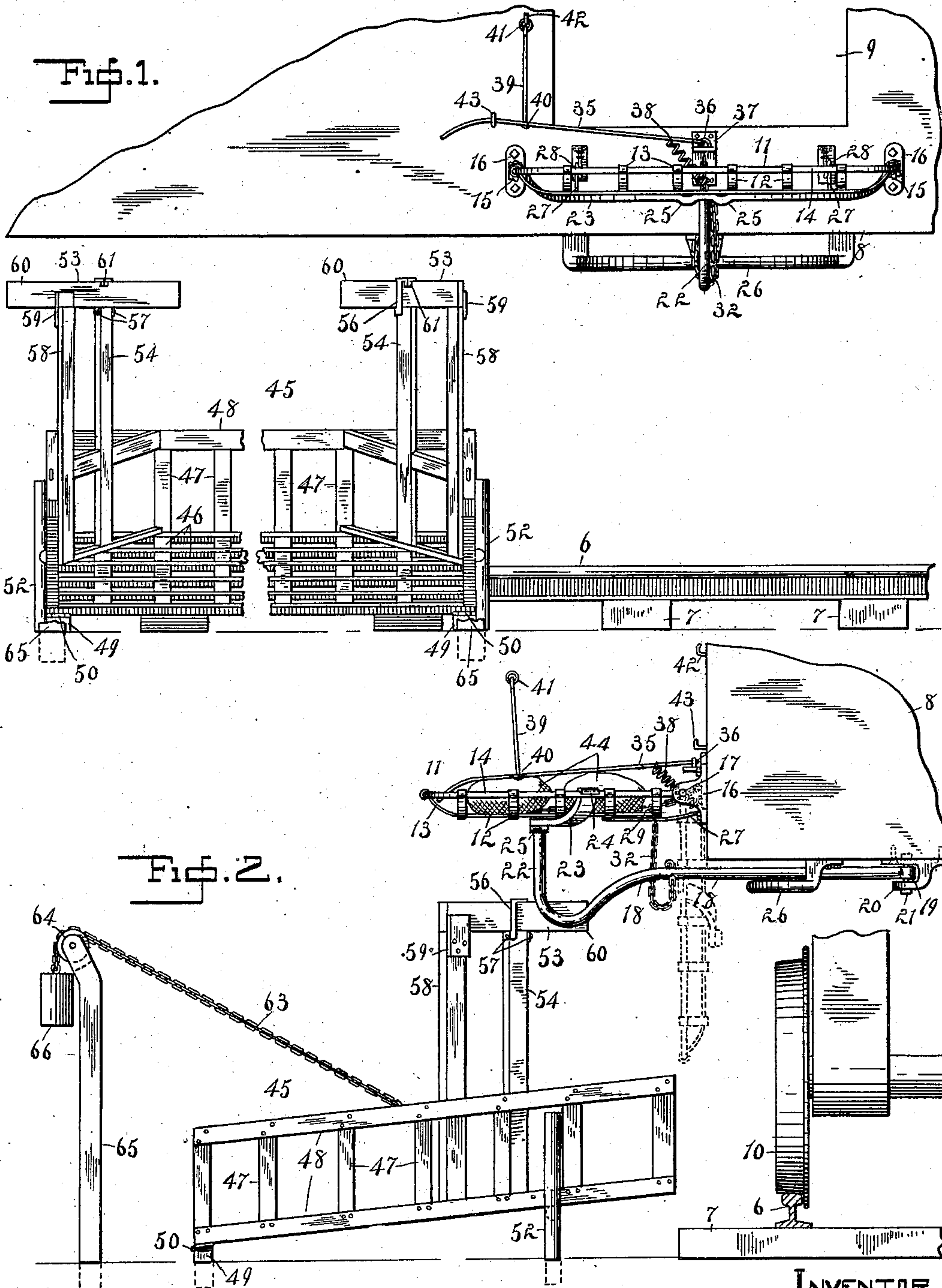
No. 889,634.

PATENTED JUNE 2, 1908.

I. E. PAYNE.
DEVICE FOR DELIVERING MAIL.

APPLICATION FILED FEB. 27, 1908.

2 SHEETS—SHEET 1.



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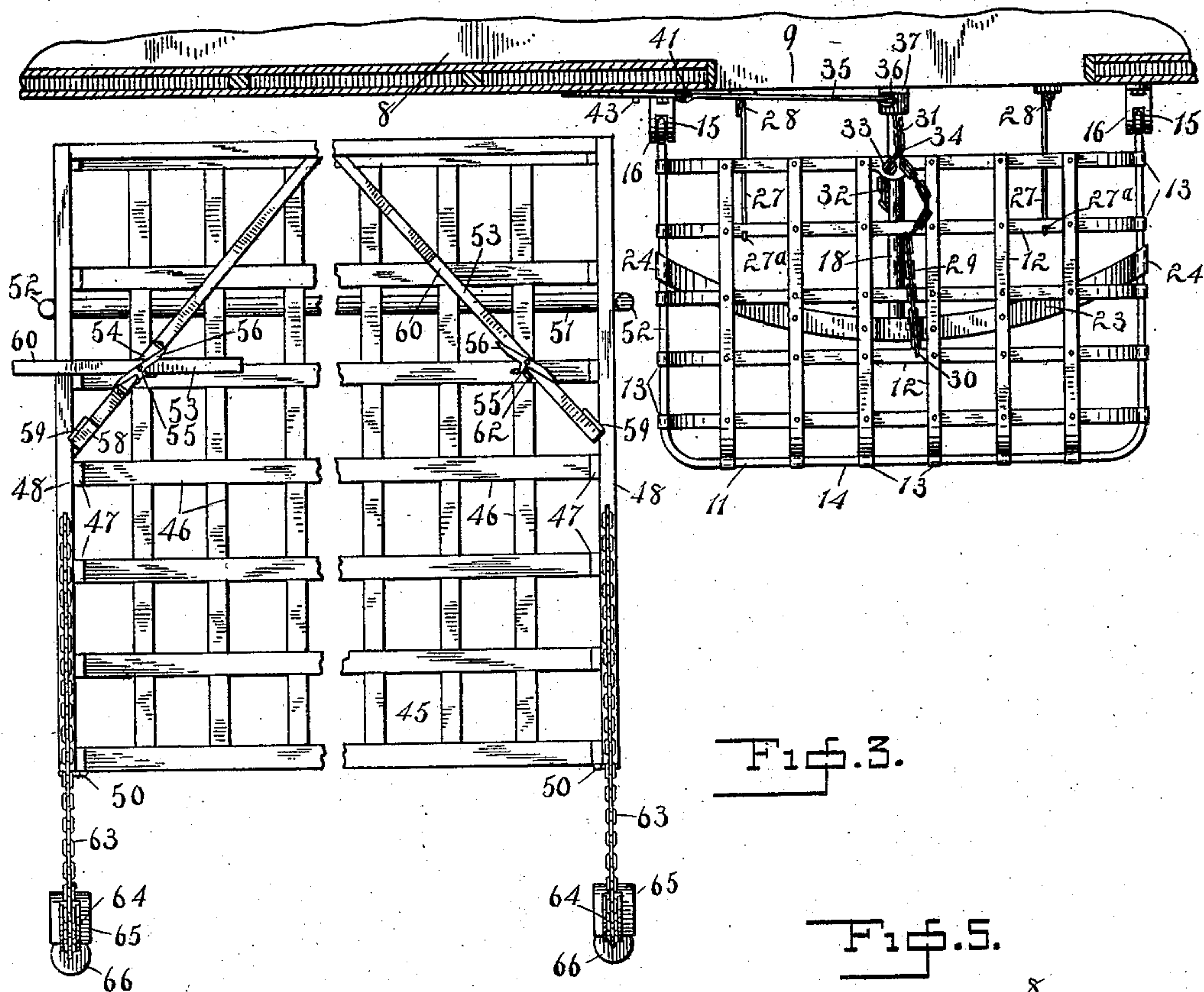


Fig. 3.

Fig. 4.

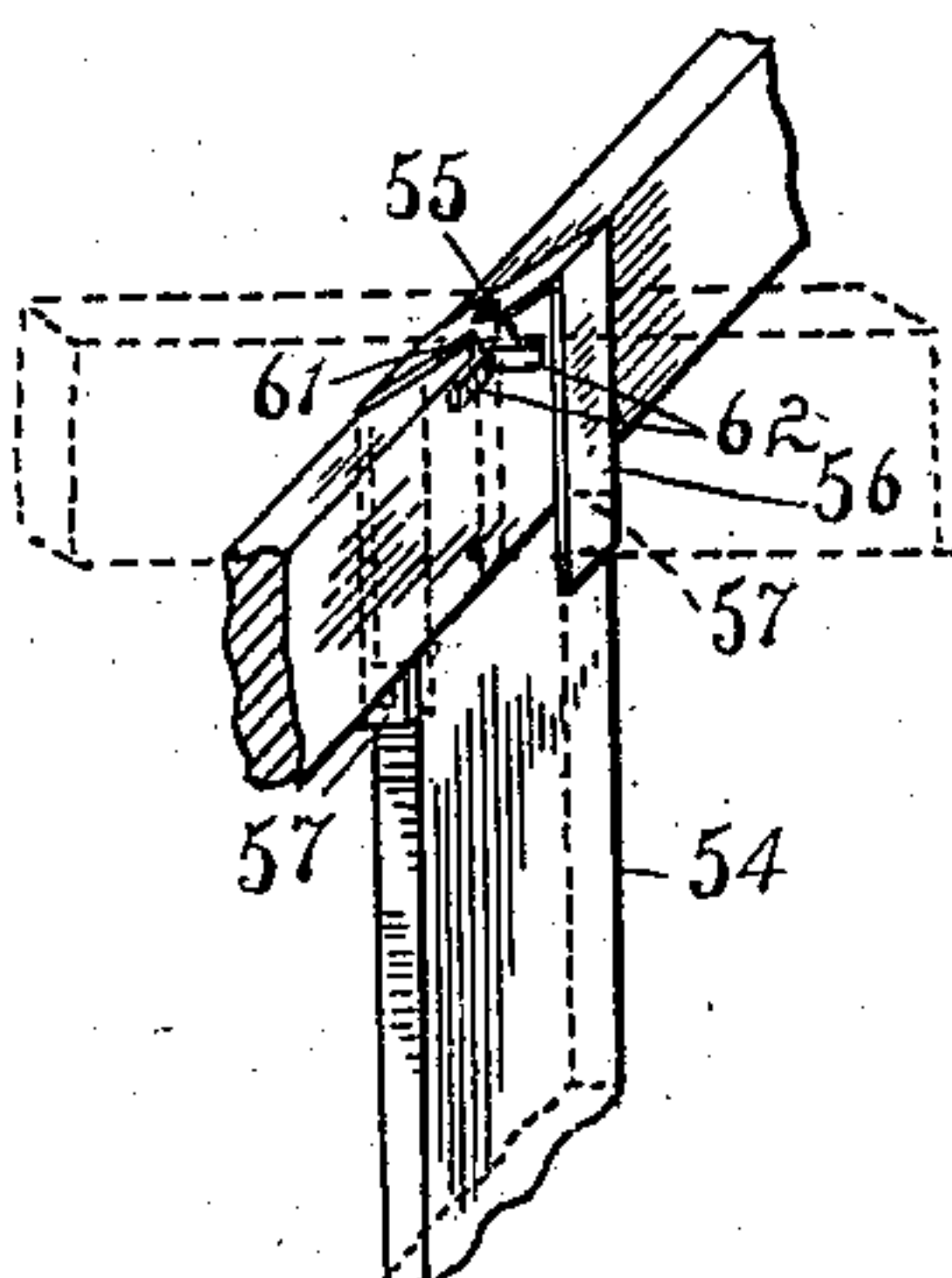
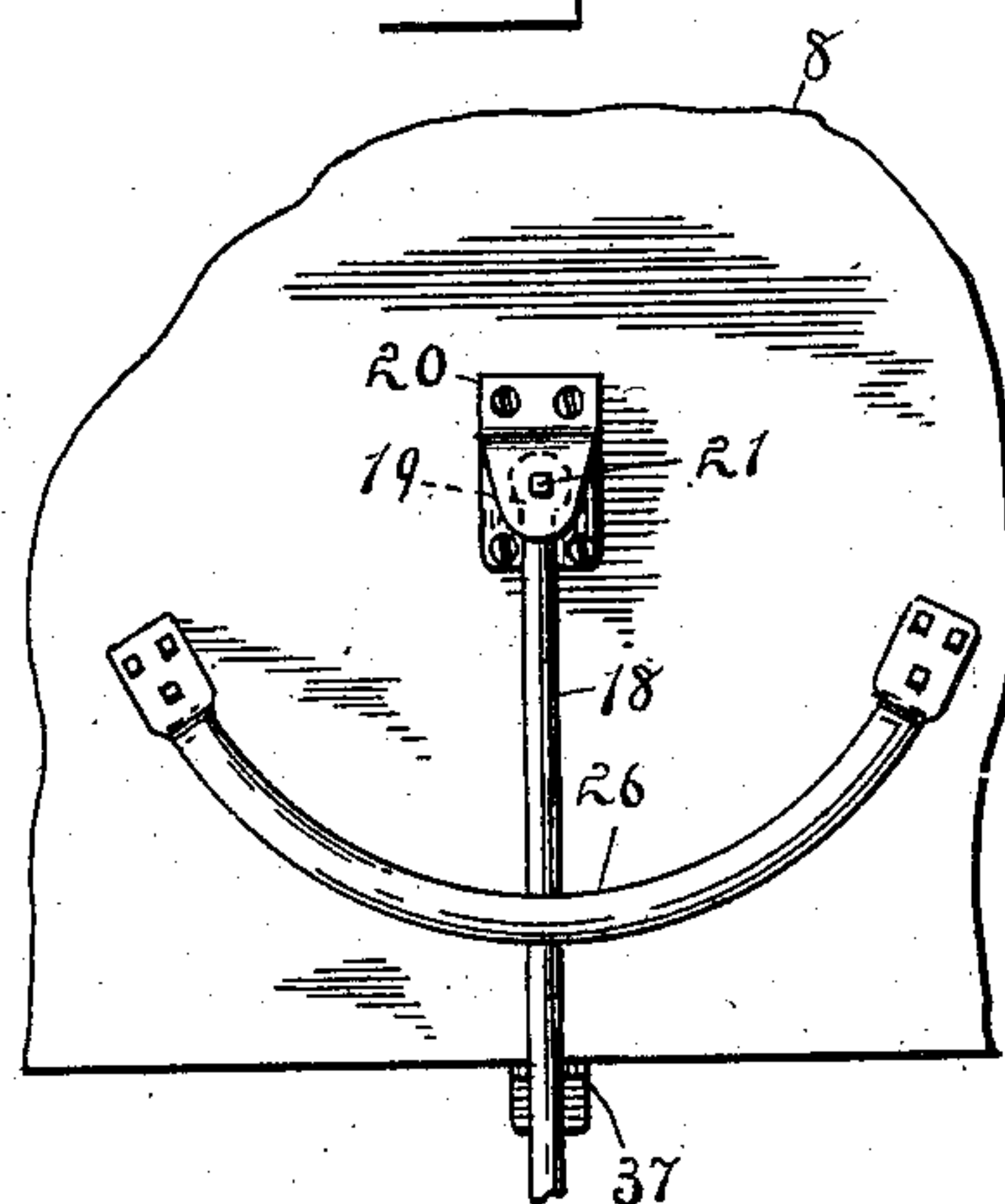


Fig. 5.



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UNITED STATES PATENT OFFICE.

IRVING E. PAYNE, OF ROCKEFELLER, ILLINOIS.

DEVICE FOR DELIVERING MAIL.

No. 889,634.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed February 27, 1908. Serial No. 417,992.

To all whom it may concern:

Be it known that I, IRVING E. PAYNE, citizen of the United States, residing at Rockefeller, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Devices for Delivering Mail, of which the following is a specification.

My invention relates to mail handling appliances and refers especially to apparatus for delivering mail in sacks from a rapidly moving car.

The difficulties met with in attempting to deliver mail at way stations from a swiftly traveling train are too well known to require extended comment. The method in common use is the primitive one of simply throwing the mail bag from the car to the station platform, and as the delivery must frequently be made at night and in stormy weather, it has often happened that the bag of mail has lodged in a muddy ditch or become ground to pieces beneath the wheels of the passing train and the mail scattered along the track.

The chief objects of the improvements which form the subject matter of this application are to provide a simple, efficient and practical apparatus whereby mail may be delivered from a moving train; to furnish safe guards for preventing the bag from being thrown beneath the car wheels, and to produce an apparatus that can be readily folded so as to be out of the way when not in use.

I accomplish the above and other desirable results by the employment of the apparatus illustrated in the accompanying drawing, forming a part of this application, said apparatus consisting, generally speaking, of a shelf or tray foldably attached to a mail car, and adapted to hold one or more mail sacks, a trip for supporting the shelf in extended position, a receiving crate located adjacent to the car track, and means attached to the crate for engaging the trip and thereby causing the tray or shelf to fall and dump its contents into the receiver.

I have shown the preferred form of my improved appliance for delivering mail sacks in the following views:—

Figure 1 is a front elevation of the complete apparatus shown in connection with a railway track and mail car, only so much of the latter being illustrated as will suffice to indicate the relation of the devices thereto; Figs. 2 and 3 are, respectively, a side elevation and a plan view; Fig. 4 is a perspective fragmentary view showing the trip bar latch,

and Fig. 5 is a bottom plan view of a portion of the mail car showing attachment and support for the trip arm.

Referring to the details of the drawings, the numeral 6 indicates the rails of a track, 7 the ties and 8 a mail car, furnished with the usual door 9, and supported upon track wheels 10. Below the door is placed a bag or sack holder in the form of a tray, or shallow basket 11, hinged to the side of the car so that it may be dropped to a vertical position when not in use and thus be out of the way of any structures located near the track. The said tray is preferably constructed of metal strips 12, arranged in lattice-work form, as shown in Fig. 3, the ends of the strips being curved upward, as shown at 13, and their extremities clenched over a rod 14, bent in U-shape to form a frame, and having the ends formed into eyes 15 which are received in brackets 16 bolted to the car side, and engage pintles 17 driven into holes in the baskets. The tray or basket 11 is supported in a horizontal position by means of an arm 18 which extends beneath the bottom of the car and is supplied at the end with an eye 19 supported in a bracket 20 and secured by a pivot bolt 21. The outer end of said arm 18 extends beneath the tray 11 and its extremity 22 is bent upward to engage a bearing plate, consisting of a strip 23, curved concentrically with the center 21, and bolted or riveted to the under side of the tray, the outer portions being curved to correspond with the contour of the tray and the ends turned about the frame member 14, as indicated at 24. At either side of the middle point of the bearing plate 23 the latter is furnished with transverse ridges or corrugations 25 which serve as detents to prevent lateral movement of the arm 18 under ordinary conditions. As an additional support for the arm 18, which must bear a considerable weight when the tray is loaded with sacks, a semi-circular bracket 26 is secured to the under side of the car so that the horizontal portion of the said arm rests thereon and is free to swing laterally to the required extent. When the said arm 18 is swung to one side by means hereinafter described, the tray 11 will fall by gravity until it assumes a vertical position as shown by dotted outline in Fig. 2.

To aid the action of gravity and insure a quick descent of the tray a pair of spring-steel rods 27 are fixed to the car, and are given one or two turns at 28 to increase their resili-

iciency, their ends being secured to one of the strips 12 by bending the extremities over the margin of the strip, as indicated at 27^a, thus permitting the necessary play at the point of contact. These spring rods 27 not only accelerate the speed with which the tray will drop but also tend to hold the tray in its vertical position, and prevent its swinging upon its center 21 from the swaying of the car.

To assist in elevating the tray from its vertical to the horizontal or operative position a chain 29 is provided one end being fastened to the basket or shelf at 30, and the other secured to a hook or ring 31. A similar chain 32, attached to the swinging arm 18, is carried up through an aperture 33 in one of the strips 12 and is linked to the chain 29 at some point 34. The tray or shelf is raised by making traction upon the chain 29 until it reaches a horizontal position when the branch chain 32 is grasped and traction made thereon to swing the arm 18 into the median line where it holds the shelf firmly supported.

To prevent accidental dislodgment of the mail bags when placed upon the holder or tray, I provide a retaining arm 35 pivoted at 36 to a plate 37 secured to the side of the car, a spring 38 tending to hold the said arm in apposition with the holder. When not in use the arm is swung parallel with the side of the car by means of a handle 39 fixed to the said arm at 40, and having a ring 41 at the end adapted to engage a hook 42 driven into the car side, the end of the arm 35 resting in another hook 43. The bag holder and attachments thus described constitute the delivering part of the apparatus, and upon this tray are placed the mail bags 44, shown in Fig. 2.

The receiving part of the appliance consists of a crate 45, which may be constructed of wood or metal and located at any convenient point near the track. I have shown the receiving crate in rectangular form having its bottom composed of longitudinal and transverse bars 46, and furnished with sides and a front wall consisting of studs 47 connected by top and bottom rails 48. The rear side is left open and rests upon parts 49 to which the crate is attached by hinges 50. The front side of the crate is supported upon a cross beam 51 carried by posts 52, the beam being elevated sufficiently to cause the bottom of the crate to slope downwardly away from the track. At each front corner of the crate is located a tripping device consisting of a horizontal trip bar 53 supported near its middle upon the top of a post 54, to which it is swiveled so that it may swing in either direction. A yoke 56 embraces the bar, crossing it diagonally, and is secured to the post 54 by ears 57. The rear end of the bar 53 when in operative position rests upon the top of a post 58 fastened to the side of the crate, a stop plate 59 limiting the movement

of the bar in one direction. The free end 60 of the bar extends at an angle towards the car, and lies in the path of the arm 18 to engage the latter and swing it from its supporting position to permit the shelf to fall. Either bar may be swung around so as to lie parallel with the front side of the crate 45 when in inoperative position, as shown in dotted lines in Fig. 4. A spring catch or latch 61 is attached to the top of the yoke 56 and has laterally extending lugs or ears 62 which alternately engage the upper margin of the bar 53 to lock it in either of its positions. Provision is made for turning the receiving crate upon its hinges 50 until it assumes an upright position thus being out of the way. For this purpose cables or chains 63 are attached to the crate and carried over grooved pulleys 64, mounted on posts 65, and to these chains are attached suitable counterweights 66 which will partly overbalance the crate and aid in raising it from its operative position.

Having thus set forth the construction of my appliance in detail, I will now describe the method of delivering mail sacks by its aid: As the mail car approaches a station, the tray or bag holder 11 is raised by means of the chain 29, and the beak 22 of the arm 18 brought into engagement with the bearing plate 23 by traction made upon the chain 32. The mail bags 44 are then placed upon the tray and the arm 35 swung to the position shown in Fig. 2, the spring 38 holding said arm down upon the bags to prevent their being prematurely dislodged by the swaying of the car. The receiving crate is made ready in advance of the passage of the train by lowering it from its vertical position until it rests upon the transverse beam 51. The trip bar 53, situated on that side from which the train is approaching is then swung to its operative position, and locked by the latch 61. As the car passes the free end 60 of the bar 53 will engage the end 22 of the arm 18 and sweep it quickly from beneath the tray which will instantly fall precipitating the bags into the receptacle 45, the inclination of the bottom and the raised front preventing any possibility of the mail being thrown beneath the train.

Having thus described my invention what I claim as new, is:—

1. A mail bag delivering apparatus, including a bag holder hinged to a car, a pivoted horizontal arm adapted to support said holder in operative position, a receiving receptacle arranged adjacent to the car track and a trip bar attached to said receptacle and adapted to engage said pivoted arm.

2. A mail bag delivering apparatus, including a tray hinged to the side of a car, an arm pivoted to the car and adapted to support said tray in operative position, a hinged receiving receptacle arranged adjacent to the

car track, counterweights for the receptacle, and arms attached to the receptacle and adapted to engage the tray supporting arm.

3. In a mail bag delivering apparatus, the combination with a car, of a bag holding tray hinged to the side of said car, resilient arms attached to the car and engaging the tray, a horizontal arm pivoted to the car and adapted to hold the tray in extended position, a hinged receptacle arranged adjacent to the car track, counter weights for the receptacle, and trip arms pivoted to the receptacle and arranged to project into the path of said horizontal arm.

4. In a mail bag delivering apparatus, the combination with a car, of a tray hinged to the side of the car, said tray having upturned margins, resilient arms secured to the car and engaging said tray, a resilient bag retaining arm pivoted to the car, a supporting arm for the tray, said arm adapted to swing horizontally a hinged receptacle arranged adjacent to the car track, pivoted trip bars attached to the receptacle and arranged to project into the path of said tray supporting arm, and means for locking said bars in operative position.

5. In a mail bag delivering apparatus, the combination with a car, of a bag holder consisting of a tray hinged to the side of said car, resilient arms tending to hold the tray in inoperative position, a spring-held bag-retaining arm having pivotal connection with the car, means for restoring the tray to its operative position, a supporting arm for the tray, said arm adapted to swing horizontally, a hinged receiving receptacle arranged adjacent to the car track, trip bars attached to the receptacle, means for moving said bars

into and out of the path of said supporting arm and means for locking said bars when adjusted.

6. In a mail bag delivering apparatus, the combination with a car, of a bag holder consisting of a tray hinged to the side of the car and having upturned margins, resilient arms attached to the car and engaging the tray, a spring held foldable arm for retaining the bags upon the tray, a swinging arm attached beneath the car and adapted to support the tray in a horizontal position, a hinged receiver arranged adjacent to the car track, counter weights for the receiver, trip bars pivoted to swing into and out of the path of the said swinging arm, means for locking said bars in either operative or inoperative position.

7. In a mail bag delivering apparatus, the combination with a car, of a tray hinged to the side of the car and having upturned margins, resilient arms engaging said tray, a spring-held foldable arm adapted to engage the upper side of the tray, a swinging arm attached beneath the car and adapted to support the tray in a horizontal position, flexible connections for placing the tray and swinging arm into operative position, a hinged receiver arranged adjacent to the car track, counterweights for the receiver, trip bars arranged to be moved into and out of the path of the said swinging arm, and means for locking said bars in either position.

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

IRVING E. PAYNE.

Witnesses:

AMY FREEMAN,
ELVIRA E. PAYNE.