

No. 631,410.

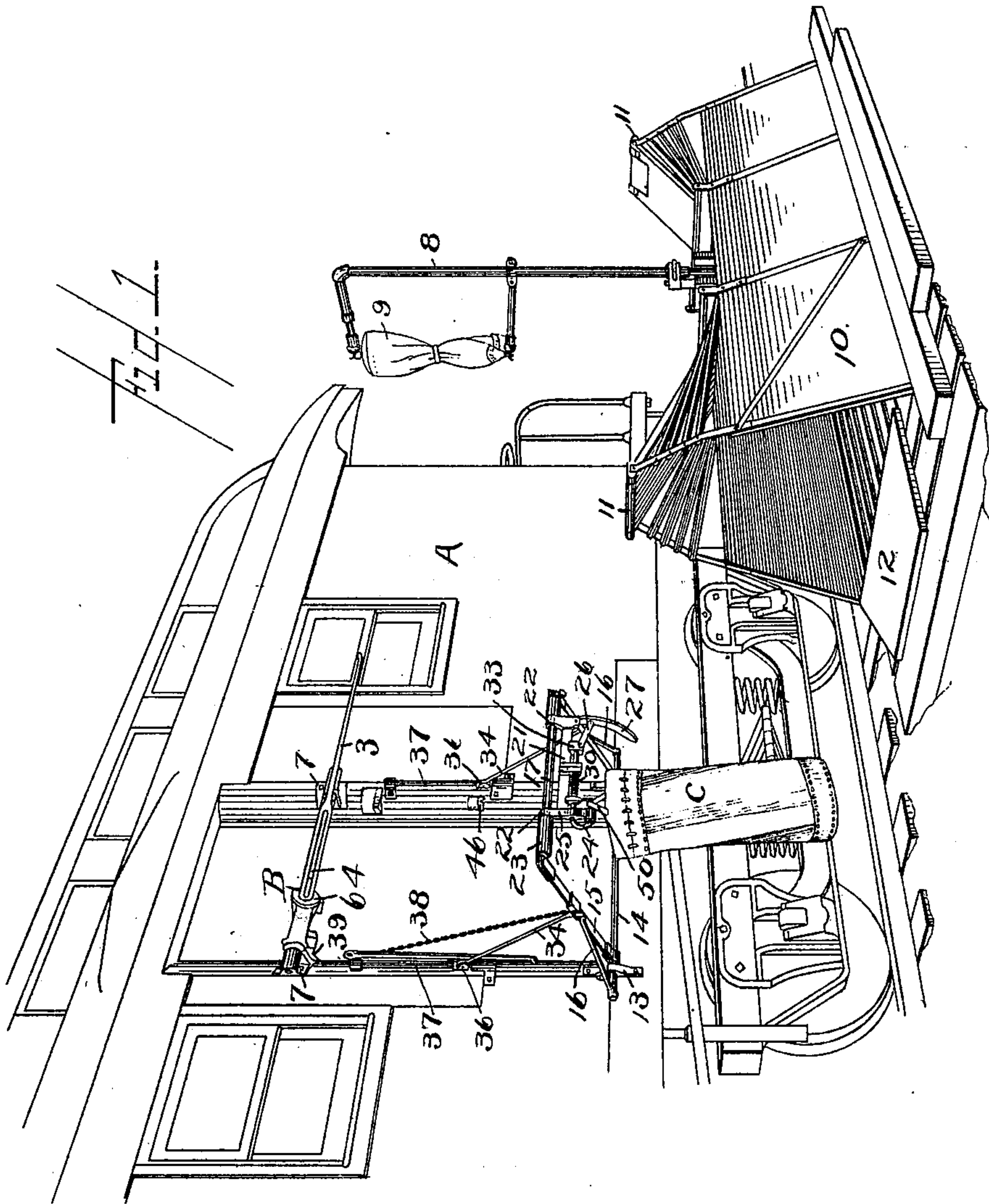
Patented Aug. 22, 1899.

G. W. SMITH.
BAG DELIVERING APPARATUS FOR MAIL CARS.

(No Model.)

(Application filed Sept. 9, 1898.)

3 Sheets—Sheet 1.



Witnesses.

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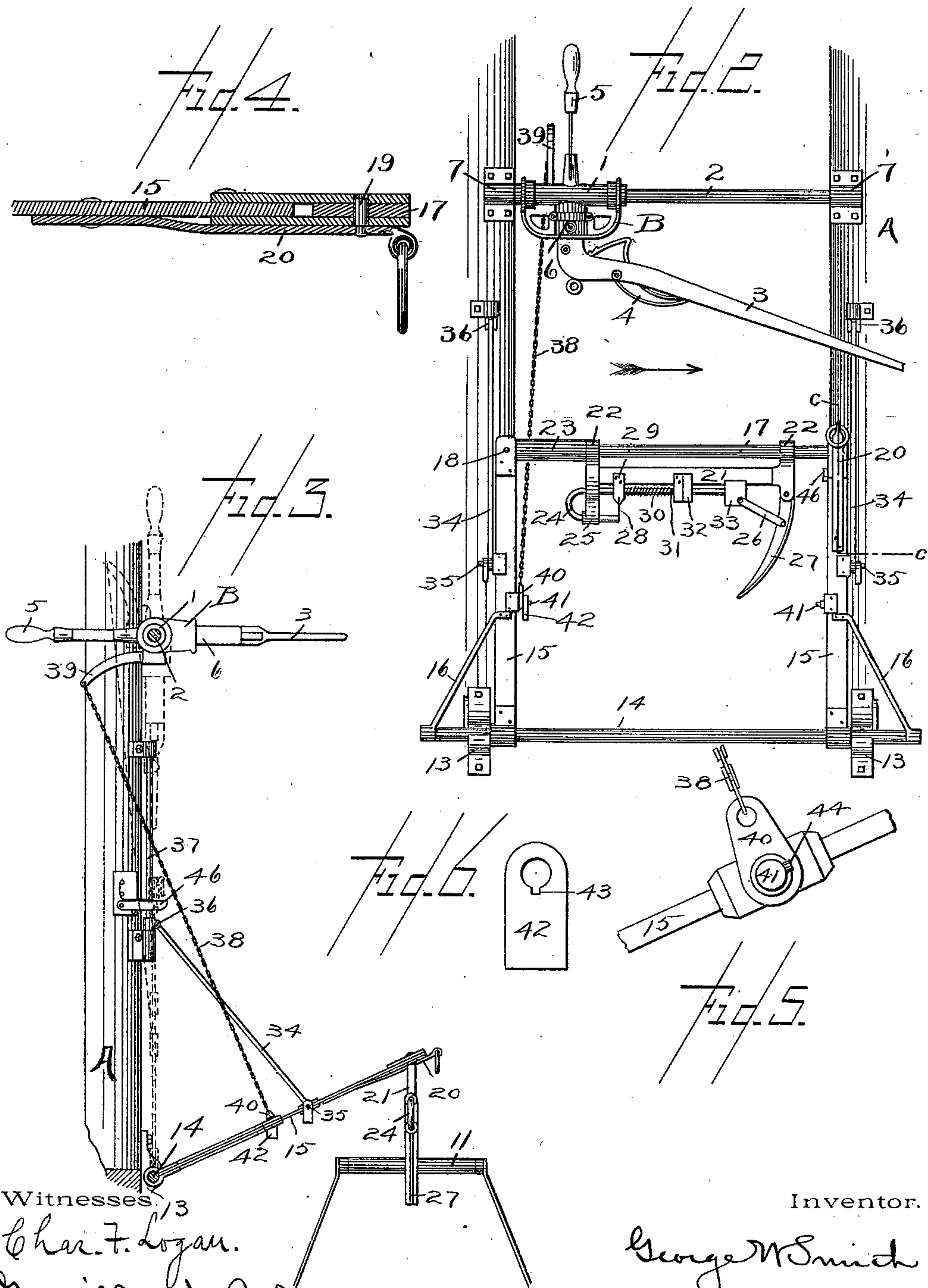
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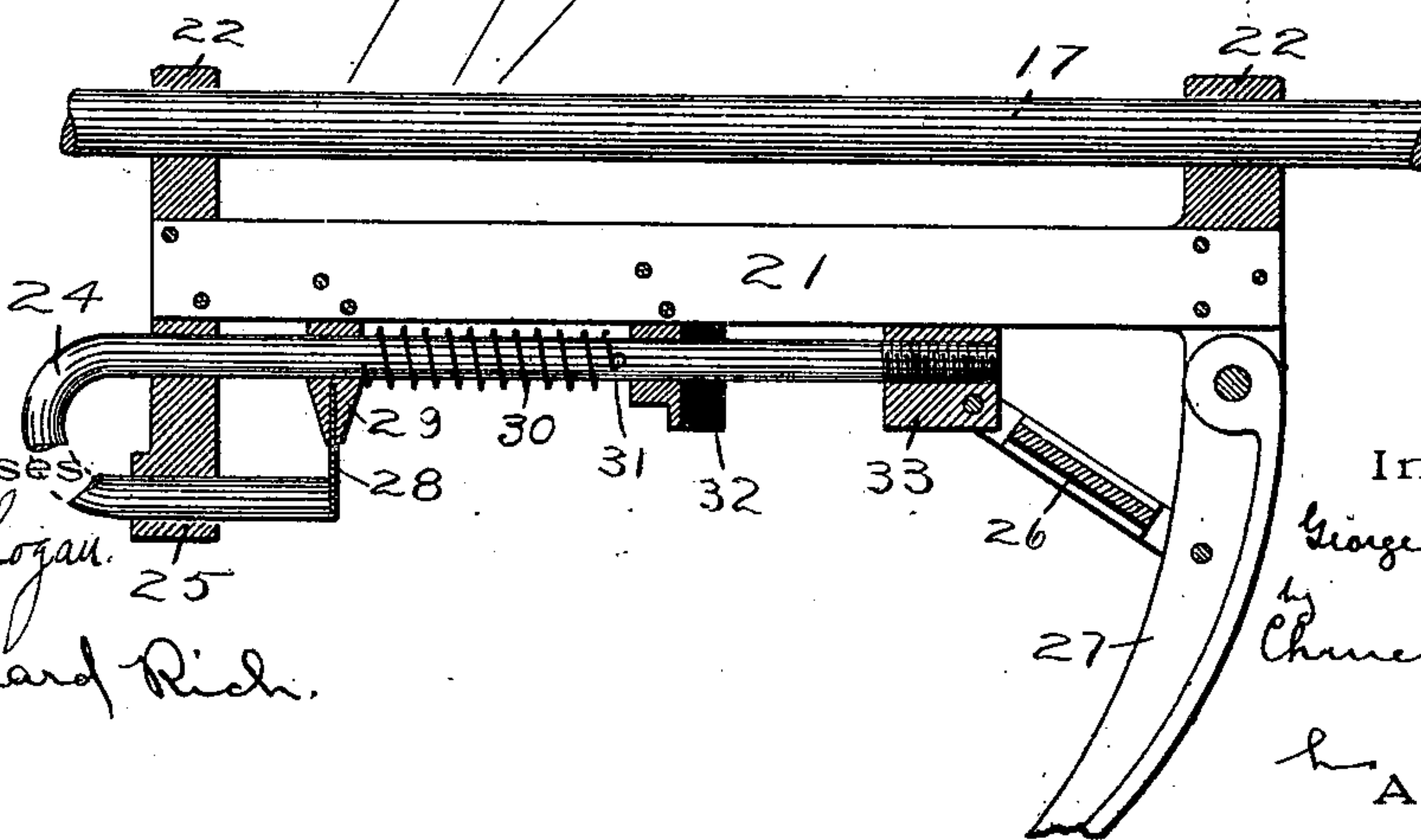
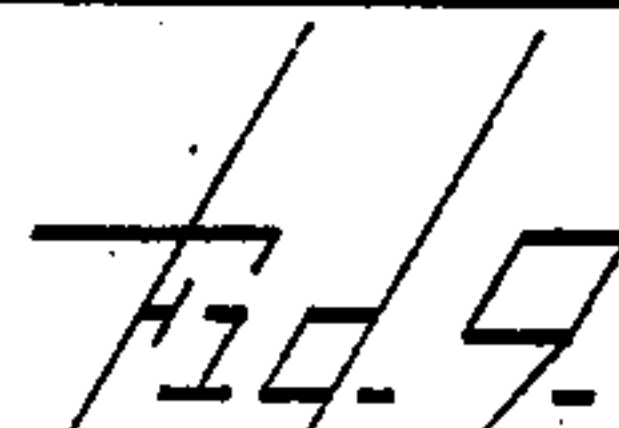
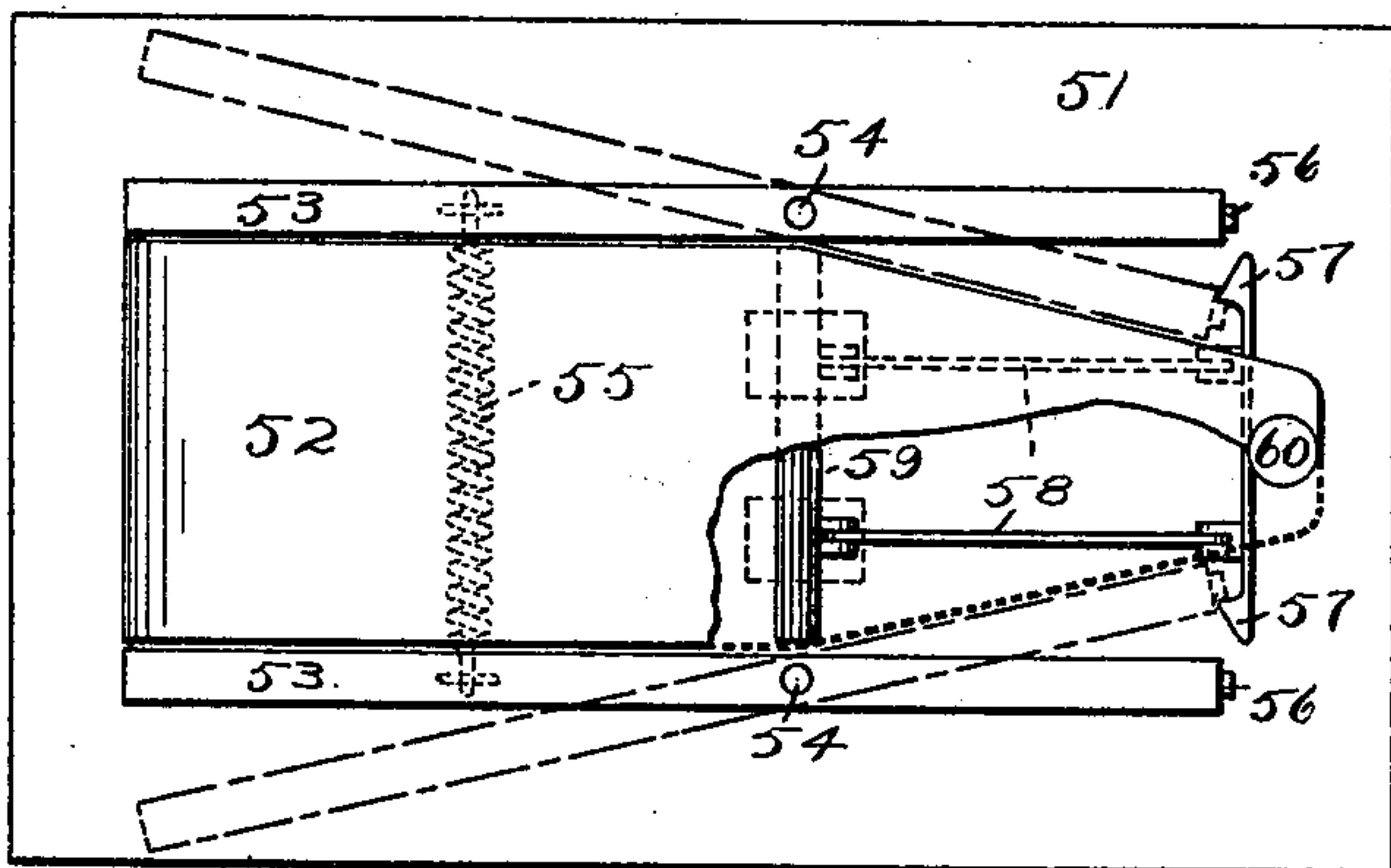
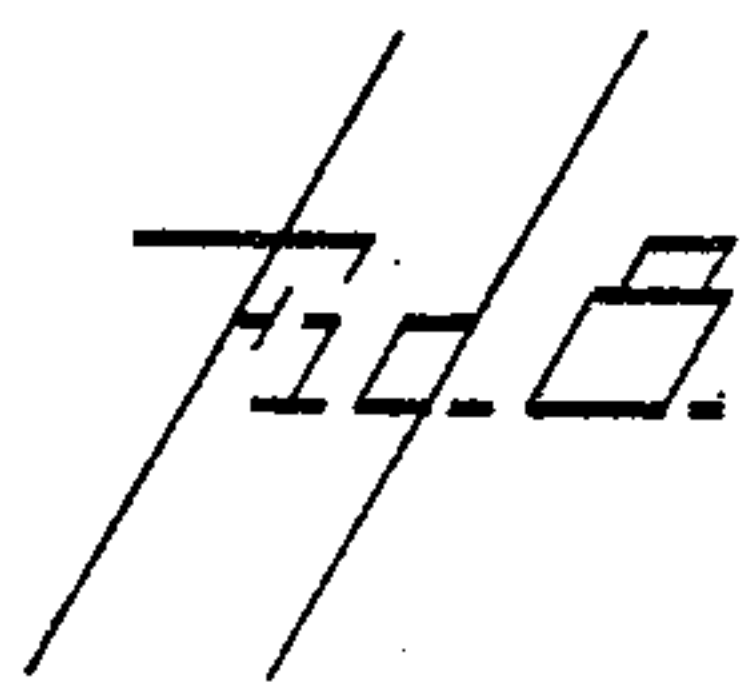
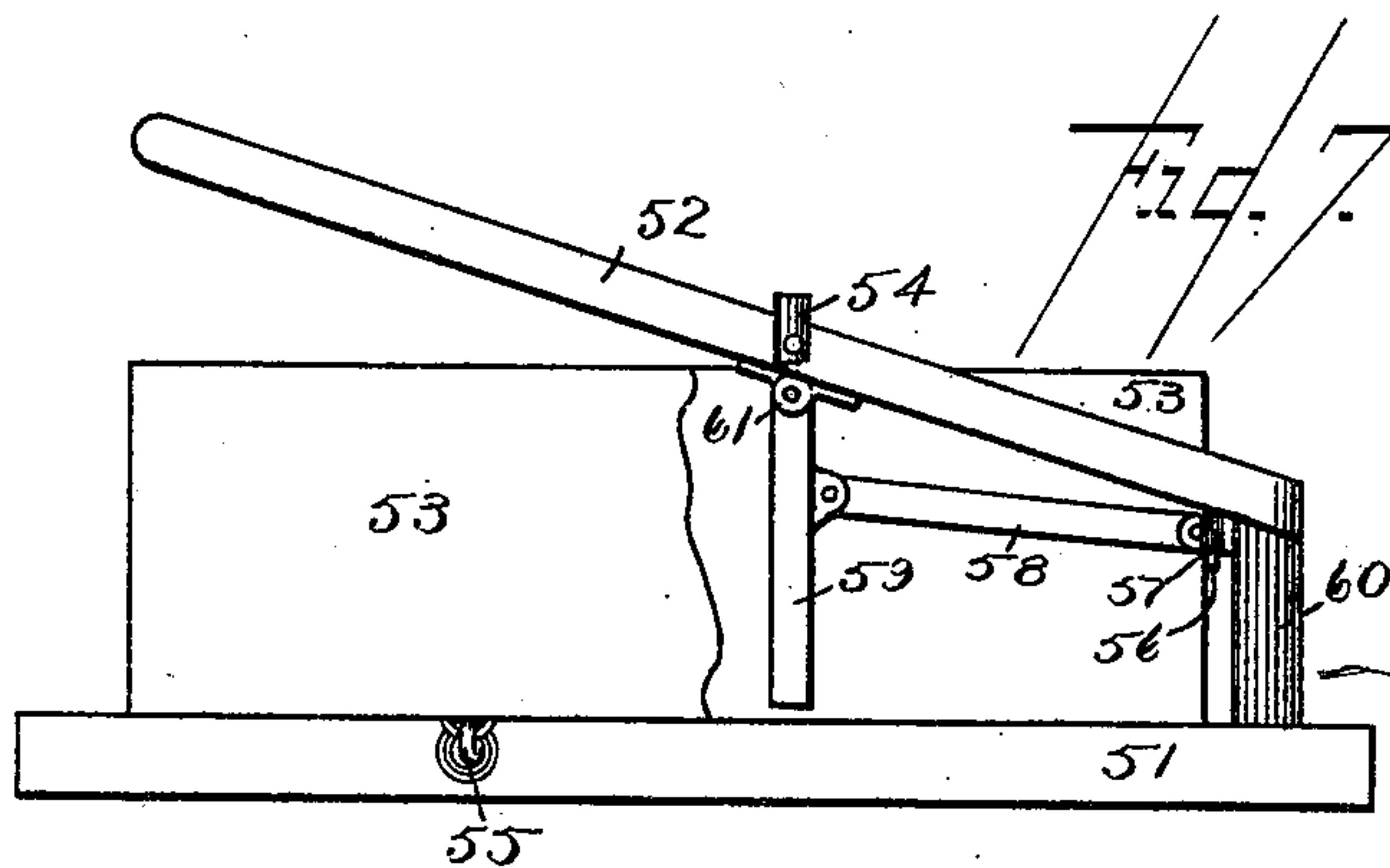
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Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE W. SMITH, OF ROCHESTER, NEW YORK, ASSIGNOR TO EDNOR A. MARSH, OF SAME PLACE.

BAG-DELIVERING APPARATUS FOR MAIL-CARS.

SPECIFICATION forming part of Letters Patent No. 631,410, dated August 22, 1899.

Application filed September 9, 1898. Serial No. 690,585. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SMITH, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Bag-Delivering Apparatus for Mail-Cars; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference letters and numerals marked thereon.

My present invention has for its object to provide devices for delivering mail-bags from railway-cars while in motion, whereby bags may be delivered at a station and, if desired, others received therefrom, the devices being particularly adapted to coöperate with a mail-bag catcher of approved form in such manner that by a single operation the catching and delivering devices on the car are placed in position to properly coöperate with the bag catching and delivering devices located at a station; and to these and other ends it consists in certain improvements and combinations of parts, all as will be hereinafter fully described, and the novel features pointed out particularly in the claims at the end of this specification.

In the drawings, Figure 1 is a perspective view showing the devices in position to deliver and receive mail-bags at a station; Fig. 2, a front elevation of the car-door, showing the parts folded and out of operative position; Fig. 3, a vertical sectional view taken at the side of the door, looking forward or in the direction of movement of the train; Fig. 4, a detail sectional view on the line *c c* of Fig. 2; Fig. 5, a side elevation of a portion of the bag-holding frame, showing detachable connector with the raising device; Fig. 6, a detached view of the locking-weight; Fig. 7, a side elevation of a modified form of bag-receiver; Fig. 8, a plan view of the same, a portion of the top being broken away; Fig. 9, a vertical sectional view of the bag-holder on the delivering-frame.

Similar reference letters and numerals indicate similar parts.

In the present embodiment of my invention I have shown the devices applied to a mail-car (indicated by A) equipped with a mail-bag catcher B, such as shown in my prior pat-

ent, No. 458,960, dated September 1, 1891, embodying generally a sleeve 1, sliding upon a supporting-bar or rod 2 and having the catcher-arm 3, the bag-holding latch 4, and the handle 5. The head 6 of the catcher-arm is swiveled in the sleeve 1, so as to be capable of reversal without the necessity of removing and reversing the sleeve on the rod, although the rod 2 is removable from the sockets or gudgeons 7 at the side of the door.

8 indicates a mail-bag crane, such as contained in my prior patent, No. 497,391, arranged at the side of the track and adapted to hold the mail-bag 9, that is to be caught by the catcher on the car, and also preferably capable of turning parallel with the track when the bag has been removed by the catcher-arm. Also arranged upon the ground at the station and preferably in proximity to the crane 8 is a receiver 10 for receiving the bag delivered from the car, said receptacle being of any convenient form and dimensions adapted to receive a mail-bag and having, preferably at the upper portion of its entrance end, an abutment 11, preferably in the form of a roller, extending transversely of and between the tracks. In the present embodiment I prefer that this receiver be made double, having apertures at opposite ends, although of course a septum or division is arranged between them, and said entrance ends are flared, as shown, and provided with a door 12 to prevent the entrance of snow and ice when the receivers are not in use.

The device for delivering the bag from the car to the receiver is supported at the outer free end of a deliverer-frame, pivoted in open bearings 13 at opposite sides of the lower portion of the car-door opening and adapted to swing on said bearings and to move up parallel with or into the car in position to permit the bag to be attached to the holder. This frame is constructed in the present instance of the lower rod 14, having the parallel projecting arms 15 connected to it and further secured and stiffened by the braces 16, the outer ends of said arms or sides 15 being preferably slotted to receive the flattened ends of a bar 17, which is pivoted upon a pin 18 at one end and at the other secured by a pin 19 on a spring-tongue 20 and passes through an aper-

ture formed in the arms and bar 17, as shown in Fig. 4.

21 indicates a bag-holding frame having eyes 22 at its upper end, sleeved and movable loosely upon the bar or way 17, and 23 indicates a spring-buffer, preferably of rubber, arranged on the bar and between the rear end of the sliding frame and the side of the swinging frame. The frame 21 is further provided with a movable bolt in the form of a hook 24, having its end passed through an aperture formed in an arm 25 thereon and connected by a link 26 with a pivoted tripping-shoe 27. The extreme end of the bolt engages a spring-tongue 28 on the bracket 29, so as to retain the mail-bag C on the bolt between the tongue and bracket 25, when it is suspended on the bolt by a loop or ring 50 on its end, as shown in Fig. 1, this being the normal position of the latch caused by the weight of the shoe or arm 27 and a spring 30, encircling the bolt and located between the bracket 29 and a pin 31 on the former.

32 indicates a rubber buffer for receiving the impact of the head 33 on the bolt when operated by the contact of the shoe with the projection at the top of the receptacle beside the track.

The swinging deliverer-frame is adapted to swing in a vertical plane from the position in dotted lines, Fig. 3, to that shown in full lines and is guided in its movements and supported by links 34, pivoted upon pins 35 at the sides thereof and connected at the upper ends to collars 36, sliding upon the vertical guide-rods 37, arranged at the sides of the door-opening, as shown.

38 indicates a chain or other suitable connection between the swinging deliverer-frame and the catcher on the car, so arranged with reference to the pivots of the parts that when the catcher-arm is swung out in position to catch the bag on the crane 8, as in Figs. 1 and 3, the deliverer-frame will be lowered, and when the catcher-arm is swung down to the position in Fig. 2 in full lines and Fig. 3 in dotted lines said frame will be raised against the car, whereby the mail-bags may be delivered from and received on the car simultaneously; but either may be used separately, if desired.

In the present embodiment the catcher-sleeve is provided with an arm 39, to which the chain 38 is connected, and the lower end of the chain is provided with a perforated plate or ring 40, fitting over a stud 41 on the frame and secured by a gravity latch-plate 42, having an aperture for the stud 41, and a slot 43 at the side permitting the passage over the pin 44 on the stud, but normally hanging out of line therewith, as shown particularly in Figs. 5 and 6. One of the studs 41 is arranged on each side of the frame, so that the chain may be connected to the other side when the catcher-arm is reversed to catch and deliver bags when the car is moving in the opposite direction. The same form of

connection embodying the gravity lock-plate 45 is employed for detachably connecting the supporting-links 34 with the frame, as shown.

In using the device the catcher is arranged upon its bar 2 with the arm projecting in the direction of movement of the train, and the holder-frame 21 is arranged upon its bar 17 in such manner that the tripping-shoe projects in the same direction, said holder-frame being readily removable from the bar and reversible by loosening the latch-pin 19, swinging the bar on the pivot 18 outward, and sliding it off the bar. The delivery-frame is swung up against the car side and normally retained by the latch 46, the catcher-arm then being suspended vertically, as in dotted lines in Fig. 3, and the bag to be delivered is attached by its ring 50 to the bolt 24 while it is resting upon the floor of the car. Before the car reaches the station the bag to be received on the train is attached to the crane in the usual manner, and the door of the bag-receiver at the station is opened, as shown. Just before reaching the station the clerk lifts the latch 46 and then by means of the handle 5 turns the catcher-arm upward, lowering the deliverer-frame to the position in full lines in Fig. 1, and as the holder is sleeved on the bar 17 the bag will remain suspended at its extreme upper portion and will hang below the projection at the top of the stationary receiver and in line with the entrance end of said receiver. When the shoe on the deliverer strikes the top of the receiver, the bolt is retracted and the bag released and dropped into the receiver, and at about the same time or shortly after the catcher-arm receives the bag from the crane, and in the usual manner the clerk then turns the catcher-arm downward (moving the handle upward) to swing the bag into the car, or the weight of the bag will accomplish this, and the deliverer will at the same time be drawn up against the car and may be secured by the latch, so that there will be no projecting parts liable to damage. The spring-tongue 31, with which the end of the bolt coöperates, affords a slightly-yielding or accommodating abutment for the latter and serves effectually to prevent the bag from slipping off the bolt, the parts being maintained in close contact all the time.

The deliverer-frame suspends the bag so near the ground that a comparatively small receiver is necessary, though it is eminently desirable that said receiver have a flaring mouth in order that even if the bag sways somewhat it will be properly received. In Figs. 7 and 8 I have shown a modification of the receiver which is particularly adapted for use between the tracks and which, while affording a sufficiently large aperture for the reception of the bag, is collapsible to a certain extent to prevent damage caused by striking projecting parts on trains. This receiver embodies a suitable base 51, having rigidly secured to the side posts 54 an inclined top 52,

the upper end of which is in position to be engaged by the shoe on the deliverer and the side boards 53, pivoted on the uprights 54 to swing laterally from the position shown in dotted lines, Fig. 8, to that shown in full lines, said sides being normally drawn together by a spring 55, connecting them and received in a suitable recess formed in the base. Near the rear ends of the side boards 53 and upon a standard 60 are arranged spring-catches 57, which engage the projections 56 on the ends of the side boards when the latter are opened at the front and retain them in that position, affording a flaring mouth for the receptacle, and said springs are connected by links 58 with a swinging abutment 59, hung at its upper end upon a cross-shaft 61, the parts being so arranged that when the abutment is swung backward the spring-catches will be released and allow the spring 55 to draw the sides together. In setting this receiver it is only necessary for the clerk at the station to draw the outer ends of the sides apart sufficiently far to enable the latches to engage the projection thereon, and then when the mail-bag passes into the receiver it will strike the swinging abutment, causing the catches to release the projections on the sides and allowing the latter to move together at the front, so that the receiver will occupy comparatively little space laterally and will not be liable to be struck by projecting parts on passing trains, and as the parts collapse automatically there is no possibility of its being left open by the operator. This form of receiver could, if desired, be made double to receive mail at both ends, as in the form shown in Fig. 1.

It is not absolutely essential that the frame carrying the delivering device should be pivoted to the car, so as to swing in a vertical plane, though this is preferable, as the weight of the bag delivered tends to keep the catcher-arm horizontal in position to catch the bag on the crane, and it further provides a simple means for the attachment of the delivering devices whereby they may be readily reversed and rendered operative when the car is moving in either direction.

It is not essential that the catcher be such a one as is contained in my earlier patent; but I prefer the latter for the reason that the catcher-arm may readily be reversed without removing the sleeved frame from the supporting-bar.

I claim as my invention—

1. The combination with a car, a frame movable laterally therefrom, and a bag-holder depending from the outer portion of said frame and embodying a bolt and releasing-shoe, of a bag-catcher on the vehicle movable laterally therefrom and arranged above the frame, connections between the catcher and frame for causing their simultaneous operation toward and from the vehicle, and a stationary bag-receiver below the holder and adapted to engage the releasing-shoe.

2. The combination with a car, the deliverer-frame movable laterally therefrom, a bag-holder frame having the horizontally-movable bolt with the hook at the end extending in the direction of movement of the car, the spring for operating it, and the releasing-shoe, of a stationary bag-receiver having an abutment for engaging the releasing-shoe.

3. The combination with a car having an opening, a frame pivoted at the lower portion of the opening and arranged to swing in a vertical plane, a bag-holder mounted on the outer end of the frame and provided with a bolt, and a releasing-shoe extending below the frame, of a stationary bag-receiver arranged below the frame when the latter is extended and having an abutment for engaging the releasing-shoe of the holder.

4. The combination with a car having an opening, and bearings at the lower side thereof, a frame pivoted in said bearings to swing in a vertical plane, a bag-holder depending from the outer end of the frame embodying a bolt and a releasing-shoe, of a bag-receiver, and a stationary abutment for engaging the releasing-shoe.

5. The combination with a car, having the bearings thereon, the deliverer-frame embodying the sides 15 and bars 14 and 17, and the supports 34, of a bag-holder mounted on the bar 17, embodying a movable bag-sustaining bolt and means for swinging the frame in its bearings.

6. The combination with the car, the vertically-swinging deliverer-frame, a bag-holder at the outer portion of the frame and depending from the latter, of a bag-catcher arm pivoted on the car and adapted to be extended therefrom, and connections between said catcher-arm and deliverer-frame for causing their simultaneous movements toward and from the car.

7. The combination with a car, and a laterally-extensible bag-catcher thereon, of a frame on the car and laterally extensible therefrom, a bag-holder on said frame arranged to sustain a mail-bag beneath the catcher and independent thereof, and connections between the catcher and frame for causing their simultaneous movements toward and from the side of the car.

8. The combination with the car having the door-opening, the bar 2 extending across said opening, the catcher-frame adjustable on the bar and the reversible bag-catcher arm on the frame, of the pivoted deliverer-frame, the reversible bag-holder thereon, and connections between the catcher and deliverer-frame for causing their simultaneous movements toward and from the car.

9. The combination with a mail-car, the frame pivoted on the car and extensible therefrom, having the movable bar at its outer side, of the reversible bag-holder movable on said bar having the bolt and the releasing-shoe.

10. The combination with a mail-car, having the door-opening and the bearings at the lower portion thereof, of the frame pivoted in said bearings, guides 37 and supports 34
5 for said frame, a bag-holder mounted on the frame, a bag-catcher pivoted on the car over said door-opening and movable in a vertical plane, and connections between said catcher and pivoted frame for causing their simulta-
10 neous movements on their pivots.

11. The combination with a mail-car, having the door-opening, of a frame pivoted on the car in proximity to said opening and arranged to swing in a vertical plane, and a
15 bag-holder pivoted to the outer portion of said frame to swing in a vertical plane.

12. The combination with a mail-car having the door-opening, the frame pivoted on the car to swing in a vertical plane and having the hinged bar at its outer end, and the
20 latch for locking it, of the bag-holding frame sleeved on the bar.

13. The combination with a mail-car having the door-opening, the frame pivoted on the car, and extending across the door-opening when swung up, and the bag-holder pivoted on the frame, of the bar extending across
25 the door-opening, the bag-catcher having a catcher-arm and handle and pivoted on the bar to swing in a vertical plane, and a connection between said catcher and frame for lowering the latter when the catcher-arm is
30 swung up to a horizontal position.

14. In a mail-bag-delivering device, the combination of a holder-frame having a sliding bolt, a shoe or trigger for operating it, and the spring-tongue with which the bolt co-
35 operates.

15. In a mail-bag-delivering device, the combination with the holder-frame, the bag-sustaining bolt sliding on the frame, the shoe or trigger pivoted on the frame and movable relatively thereto, a connection between the shoe and bolt to operate the latter irrespec-
40 tive of any movement of the frame, and a relatively stationary abutment operating to

engage the shoe to operate the bolt and release the bag.

16. The combination with a mail-car and a mail-bag holder thereon embodying a bag-
50 supporting bolt and a movable shoe connected directly to the bolt and operating to retract it irrespective of any movement of the holder, of a stationary open receptacle having a projection in proximity to the mouth thereof for
55 engaging the shoe and releasing the bag.

17. A receiver for mail-bags having the pivoted side boards arranged to be moved at an angle with each other to provide a flaring
60 mouth for the receiver and also to extend substantially parallel, substantially as described.

18. In a receiver for mail-bags, the combination with the pivoted side boards arranged to extend at an angle relative to each other,
65 and means for automatically turning said boards into substantial parallelism when the bag is received between them.

19. In a mail-bag receiver, the combination with the pivoted spring-operated side boards, retaining devices for holding their outer ends
70 separated, and a movable abutment within the receiver for operating the retainers to release the side boards.

20. In a mail-bag receiver, the combination
75 with the pivoted spring-operated side boards, catches for holding the boards, and the swinging abutment within the receiver connected to the catches.

21. The combination with the car having
80 the door-opening, the bar 2, the catcher-frame rotarily adjustable on the bar, having the arm 33, the handle, and the reversible catcher-arm 3, of the deliverer-frame, the reversible bag-holder at the outer end thereof, and a con-
85 nection between the arm 33 and the frame, whereby the catcher and deliverer frames will be operated simultaneously.

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Witnesses:

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