

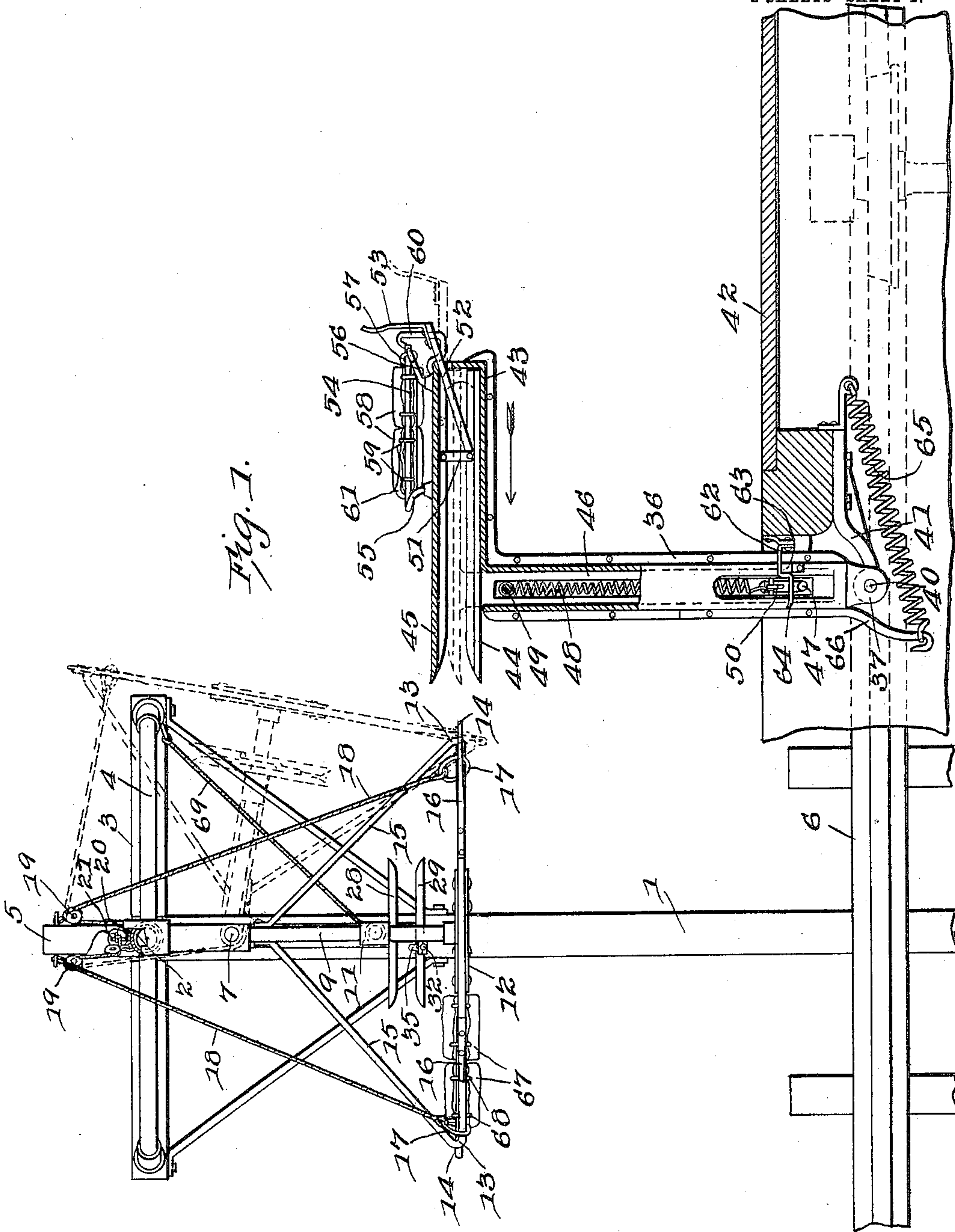
No. 812,471.

PATENTED FEB. 13, 1906.

H. H. AKERS.
MAIL BAG CATCHER AND DELIVERER.

APPLICATION FILED NOV. 2, 1905.

2 SHEETS—SHEET 1.



Witnesses

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Henry H. Akers

Inventor

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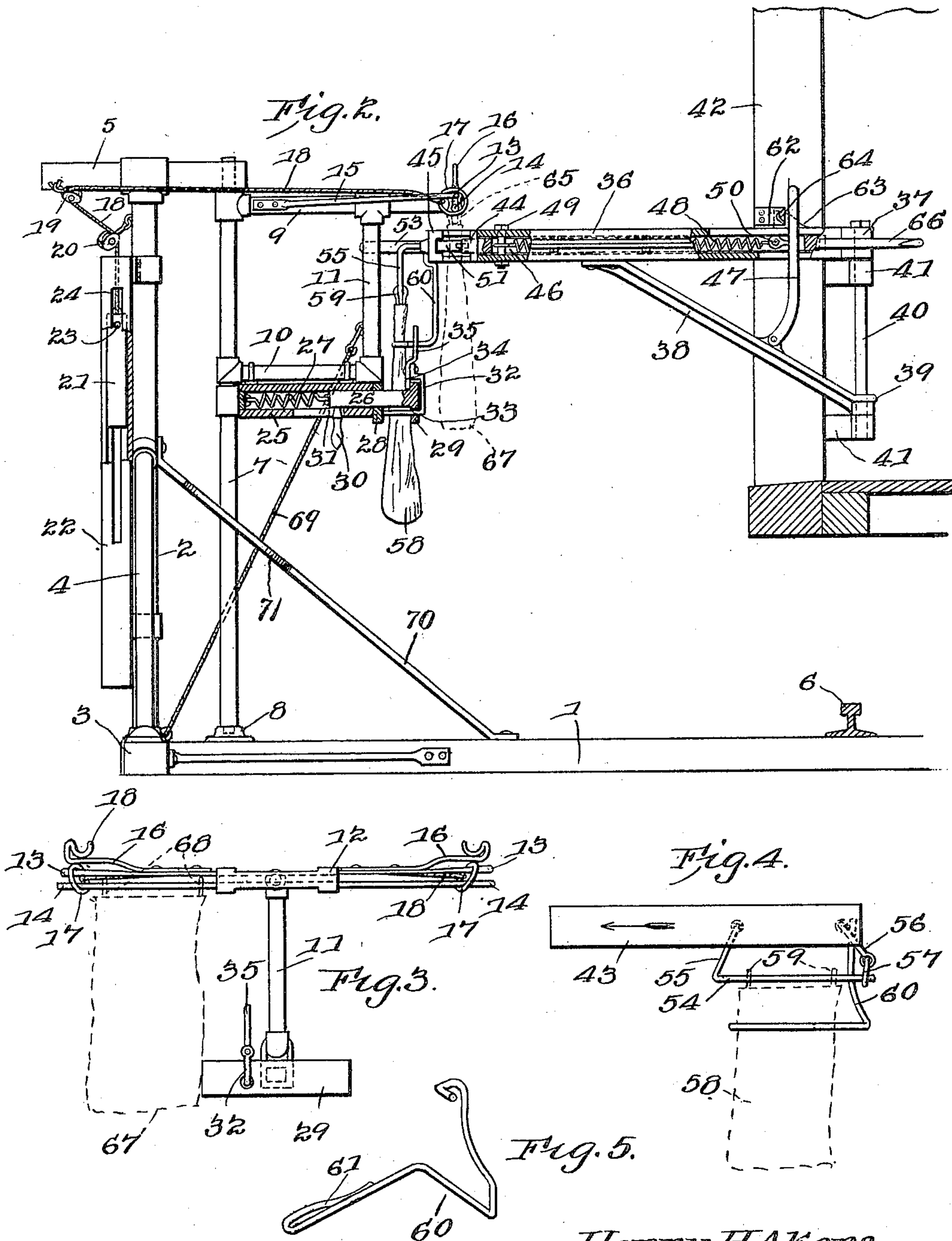
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UNITED STATES PATENT OFFICE.

HENRY HERBERT AKERS, OF CHERRYVALE, KANSAS, ASSIGNOR TO ORA BLEAK AKERS, OF CHERRYVALE, KANSAS.

MAIL-BAG CATCHER AND DELIVERER.

No. 812,471.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed November 2, 1905. Serial No. 285,633.

To all whom it may concern:

Be it known that I, HENRY HERBERT AKERS, a citizen of the United States, residing at Cherryvale, in the county of Montgomery and State of Kansas, have invented a new and useful Mail-Bag Catcher and Deliverer, of which the following is a specification.

This invention relates to mail-bag delivery and catching apparatus, and has for its object to provide certain new and useful improvements in the car and stationary devices whereby the handling thereof is materially simplified, bags may be effectually transferred from one to the other of the devices, and danger to the attendants is reduced to the minimum. It is also proposed to enable the convenient hanging of the mail-bags upon the two devices and to insure the effective transfer thereof from each to the other of the devices without any liability of the bag hanging and becoming displaced or injured during the transfer thereof.

Another object of the invention is to prevent undue swinging of the bag which is carried by the car device, thereby to prevent displacement of the bag before it reaches the stationary device and to insure the proper engagement of the bag with the stationary device.

Another object of the invention is to provide for positively holding the car device when projected outwardly through the car-door into position for use and to effect automatic tripping of the holding means and swinging of the car device into the car after a bag has been delivered from the car device and another bag has been caught thereby.

Still another object is to provide for automatically swinging the stationary device away from the railway-track after it has performed its functions in transferring the bags.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a top plan view of the apparatus of the present invention with parts broken away to disclose certain internal constructions thereof. Fig. 2 is an elevation of the apparatus in readiness to transfer mail-bags with parts broken away to disclose the internal construction thereof. Fig. 3 is a detail front elevation of the bag holding and receiving portions of the stationary member of the apparatus. Fig. 4 is a detail view of the bag-holding means on the car device. Fig. 5 is a detail perspective view of one of the bag-holding elements of the car device.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

The present invention is an improvement upon my former patent, No. 790,245, issued May 16, 1905, and makes use of an extended cross-tie 1 for the support of the stationary device. A post 2 rises from the outer end portion of the cross tie or sill 1, or, to be more correct, from a sill 3, disposed transversely across the outer end of the tie. Braces 4 converge upwardly from the ends of the sill 3 to the post 2, and upon the top of the latter is a cross-head 5, extending at substantially right angles to the railway-track 6. In front of the post 2 there is a rotatable standard 7, having its lower end mounted to rotate in a bearing 8 and its upper end having a bearing in the front end of the cross-head 5. Upper and lower substantially horizontal arms 9 and 10 are carried by the rotatable standard 7 and are connected by an upright brace 11, the arm 9 being longer than the arm 10. It will here be explained that the standard 7, together with the arms 9 and 10, constitute a swinging crane which is capable of being swung to one side, as indicated by dotted lines in Fig. 1. A cross-head 12 is carried by the outer end of the arm 9, and this cross-head in turn carries substantially parallel upper and lower jaws 13 and 14, extending from opposite ends of the cross-head, the upper jaws 13 being rendered rigid by means of braces 15, extending from the outer ends of said jaws to the arm 9. Upon the top of each jaw 13 there is a spring-catch 16 in the nature of a spring-rod having its inner end secured to the top of the fixed jaw 13 and its

free end spaced above the jaw and extending across the outer end thereof, with the free extremity of the spring-catch turned back to form a finger-piece. A ring or link 17 slidably embraces each pair of jaws 13 and 14 and has a cable 18 connected thereto and running rearwardly therefrom to a suitable guide 19, preferably a pulley, carried by the adjacent side of the rear end of the stationary cross-head 5, from which it extends downwardly to another guide or pulley 20, carried by the standard, and is connected to a counterweight 21, working in a case 22, carried by the back of the post 2. The counterweight 15 is provided with a projection 23, working in a slot 24 in the case to prevent rotation of the weight and consequent twisting of the cables or ropes. It will of course be understood that there is a similar slot and projection at the opposite side of the weight and the case. When both rings are engaged with the jaws, the crane is held at substantially right angles to the railway-track; but when either ring is removed the counterweight swings the crane to one side, as indicated by dotted lines in Fig. 1 of the drawings.

Beneath the arm 10 and carried thereby is a case 25, containing a slide or plunger 26, working through the front of the case and normally held retracted by a helical spring 27, contained within the case. A stationary jaw 28 is carried by the outer end of the case, and a movable jaw 29 is carried by the outer end of the slide 26, so as to cooperate with the front face of the jaw 28. The slide 26 is provided with a handle 30, depending through a slot 31 in the bottom of the case 25 for convenience in moving the jaw outwardly against the tension of the spring. A bracket 32 is disposed at the outer or forward limit of the jaw 29 and is connected to the case 25 by an arm 33, which loosely pierces the movable jaw 29. The upper end of the bracket 32 overhangs the jaw 39 at its outer limit and carries a swinging catch 34 to be swung down back of the jaw, and thereby hold the same open, said catch having a trip or handle 35 rising therefrom and disposed in the path of a portion of the car device, whereby the movable jaw may be released and snapped inwardly to grip a bag between the two jaws.

The car device of the present invention includes a crane made up of a substantially horizontal hollow arm 36, preferably in the nature of semitubular castings which are riveted or otherwise secured to one another. The rear end of this arm is provided with an eye 37, and a brace 38 inclines downwardly and rearwardly from the bottom of the arm and terminates in an eye 39 in alinement with the eye 37 for the reception of a pivot rod or bolt 40, which also passes through upper and lower bearings 41, secured to the inner side of the car 42. Upon the outer end

of the arm there is a longitudinally-bifurcated cross-head 43, wherein is a laterally-movable jaw 44 in cooperation with the outer side 45 of the head as a stationary jaw. The construction and operation of the movable jaw 44 is similar to that disclosed in my patent hereinbefore referred to. A longitudinally-slotted stem 46 carries the jaw 44 and works in the head 45. An upstanding lever 47 is fulcrumed upon the brace 38 and rises through the slotted portions of the arm 36 and the stem 46. Within the slot of the stem 46 there is a helical spring 48, having its front end connected to the arm 36, as indicated at 49, while its rear end is connected to the lever 47, as at 50, the connection 50 also being connected to the slidable stem, whereby the movable jaw 44 may be retracted by swinging the lever rearwardly. For holding the movable jaw open there is a link 51, pivoted to the inner face of the stationary jaw 45, as best shown in Fig. 1, with a rod 52 pivoted to the free end of the link and extending outwardly through an opening in the rear end of the head, where it is provided with a trip projection 53, extending laterally outward beyond the stationary jaw. By swinging the lever 47 rearwardly the jaw 44 may be retracted, after which the rod 52 is moved forwardly, so as to swing the link 51 transversely between the two jaws, and thereby hold the same separated in position to receive a bag which is hung upon the stationary portion of the present apparatus.

Upon the head 45 there is a bag-holder consisting of a substantially horizontal arm or rod 54, hung beneath the head and connected thereto by a suitable hanger 55 at the forward end of the arm, the rear end of the arm being free from the head. A bracket 56 depends from the head adjacent the rear free end of the arm 54, and a ring or link 57 is loosely carried by the bracket and capable of embracing the free end of the arm 54, the latter having sufficient elasticity to swing downwardly when the link 57 is removed therefrom.

As best exhibited in Fig. 4 of the drawings, it will be seen that the bag to be held by the car device, as shown in dotted lines at 58, is provided at its mouth with a pair of rings 59, which are slid upon the arm 54, and then the link 57 is engaged with the free end of the arm, so as to prevent displacement of the bag from the arm. To prevent undue swinging of the bag upon the bag-holding arm, there is a guard consisting of a hanger 60, depending from the head 45 and provided at its lower end with a horizontally-disposed substantially U-shaped spring-clamp 61, disposed at a suitable distance below the arm 54 and designed to embrace the bag when the latter is hung from the arm 54.

When the car device is swung outwardly

into its operative position, it is held there by means of a spring-catch 62 (shown in Figs. 1 and 2 of the drawings) and secured to the adjacent door-post, there being a seat or keeper 5 63 provided upon the top of the arm 36 for engagement by the catch. The outer free end of the catch is provided with a trip portion 64, lying in front of the lever 47 and in the forward path thereof, so that when the 10 movable jaw 44 is released and moved forwardly by the spring 48 the lever 47 will also be drawn forwardly, and thereby disengage the catch 62 from the keeper 63, and thereby release the arm 36, which is automatically 15 swung into the car by a spring 65, which is connected to the inner wall of the car and to a bracket 66 upon the inner end of the arm 36.

In practice a bag 58 is engaged with the bag-holder of the car device and the latter 20 swung out into operative position, where it is held in the manner hereinbefore described. A bag 67 is then hung by its rings 68 upon that jaw 14 which extends in the direction of movement of the approaching train, the ring 25 17 of course being replaced after the bag has been hung upon the crane. The movable jaw 29 of the crane is of course drawn out and held by the catch 34. When the car reaches the stationary portion of the present 30 apparatus, the bag 58 enters between the jaws 28 and 29 and the lower portion of the guard 60 strikes the trip portion 35 of the catch 34, and thereby releases the jaw 29, which springs rearwardly and clamps the bag 35 between the two jaws and holds the same stationary, while the car device continues with the car, and the bag-holding member 54 is thereby drawn out of the rings 59 upon the 40 bag, the latter being left hanging between the jaws of the stationary portion of the apparatus. The bag 67, which is hung from the stationary part of the apparatus, is received between the jaws 44 and 45 of the car 45 device, and when the trip 53 strikes the part 11 of the crane the spring-jaw 44 will be released, so as to grip the bag between the two jaws, which drags the bag from the stationary portion of the apparatus and swings the bag into the interior of the car in the manner 50 hereinbefore described. Upon reference to Fig. 1 of the drawings it will be noted that the car and stationary portions of the apparatus are arranged to have the jaws of one portion lie in the path of the bag of the other 55 portion in order that there may be a proper engagement of these elements. When the bag 67 is dragged from its holder, the adjacent ring 17 will be slid from the jaws 13 and 14, thereby releasing the counterweight 21, 60 which descends and automatically swings the crane away from the track into the position shown by dotted lines in Fig. 1 of the drawings.

It is proposed to brace the crane of the sta-

tionary portion against the strains occasioned 65 by the impact of the car and the stationary devices, this being carried out by means of a brace-cable 69, having its lower end secured to the part 11. It is of course necessary to have a flexible brace in order that the crane 70 may be folded or swung away from the track after the passage of the train.

A rigid brace 70 extends between the post 2 and the tie 1 and is provided with a bowed or deflected portion 71 to pass around the 75 standard 7, so as not to interfere with the rotation thereof.

Having thus described the invention, what is claimed is—

1. In a mail-bag catching and delivering 80 apparatus, a car device mounted to swing horizontally into and out of the car, a spring-actuated bag-gripping jaw upon the car device, means to hold the jaw open, means to trip the jaw, means to hold the car device in 85 its operative position, and means controlled by the jaw-holding means for releasing the car device.

2. In a mail catching and delivering apparatus, the combination with a car, of a hori- 90 zontally-swinging car device, a spring-pressed jaw carried by the device, means to hold the jaw open, means to trip the jaw-holding means, a catch carried by the car, a keeper upon the car device for engagement with the 95 catch, means controlled by the jaw-holding means for releasing the catch from the keeper, and means to automatically swing the car device into the car when the catch is released.

3. In a mail-bag catching and delivering 100 apparatus, the combination with a support, of a horizontally-swinging crane having a movable jaw, a spring connected to the jaw and the crane, a lever for moving the jaw against the pressure of the spring, means for 105 holding the jaw open, means to trip the jaw-holding means, a catch engaging the crane and the support to hold the former in its operative position and located in the path of the lever to be tripped thereby, and means to 110 automatically swing the crane from its operative position when the catch is released.

4. In a device of the class described, the combination of a car device, a stationary de- 115 vice, a pair of tensioned jaws carried by one of the devices, a catch to hold the jaws open, a bag-holder carried by the other device, and a guard carried by said other device for engagement with the bag to prevent swinging 120 thereof, a portion of the jaw-holding means being disposed in the path of the guard to be tripped thereby.

5. In a device of the class described, the combination of a stationary device, a fixed jaw and a spring-actuated jaw carried there- 125 by, a bracket projected in advance of the movable jaw, a catch pivoted upon the bracket and capable of being engaged with the mov-

able jaw to hold the same open, a car device, a bag-holder carried thereby, and a substantially U-shaped spring-clamp hung from the car device for embracing the bag, a portion
5 of the catch being disposed in the path of the clamp for automatically releasing the spring-actuated jaw.

6. In an apparatus of the class described, the combination of a crane, opposite bag-holding
10 means upon the crane and including removable elements, a counterweight, and cables connected to the counterweight and the respective removable elements to normally hold the weight elevated, said weight capable
15 of swinging the crane to one side when either of the removable elements is removed.

7. In an apparatus of the class described,

the combination with a frame, of a crane mounted upon the frame to swing upon a vertical axis, opposite bag-holding means carried by the crane, a counterweight movable
20 vertically upon the frame, removable elements included in the bag-holding means, guides upon opposite sides of the frame, and cables connected to counterweights and running through certain of the guides to the
25 respective removable elements.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY HERBERT AKERS.

Witnesses:

LOUIS E. DODDS,
JULIUS B. ANDRUS.