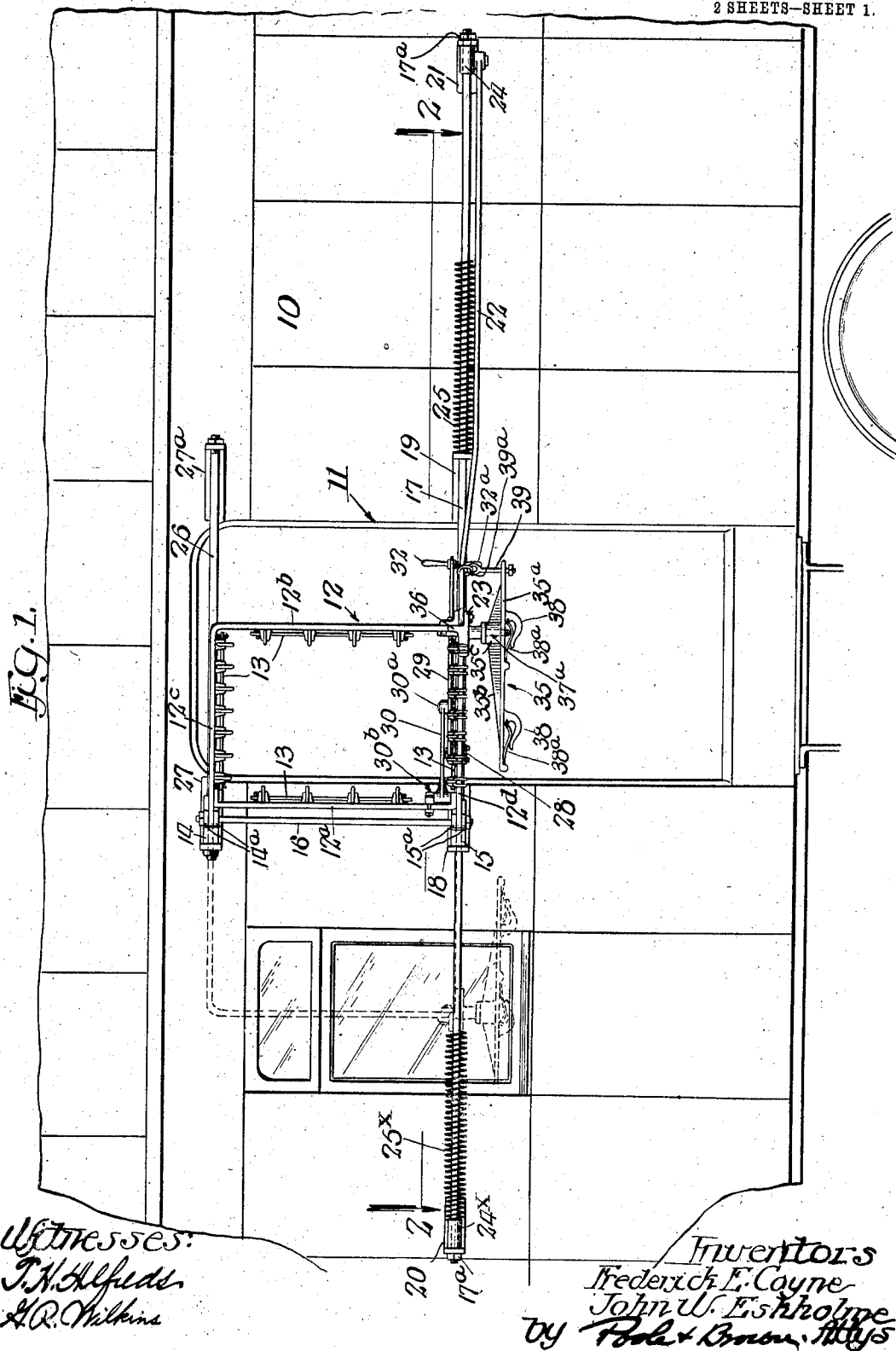


F. E. COYNE & J. W. ESKHOLME.
RAILWAY MAIL CATCHING AND DELIVERING APPARATUS.
APPLICATION FILED AUG. 3, 1911.

1,016,478.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.

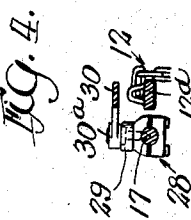
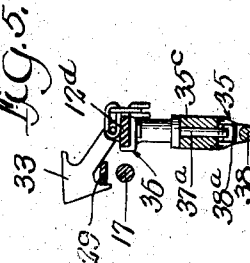
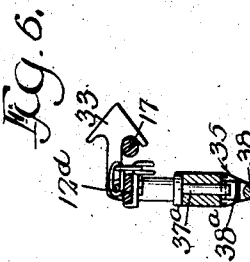
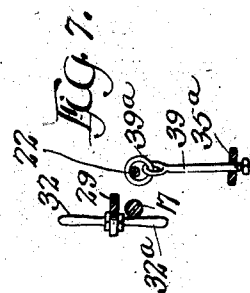
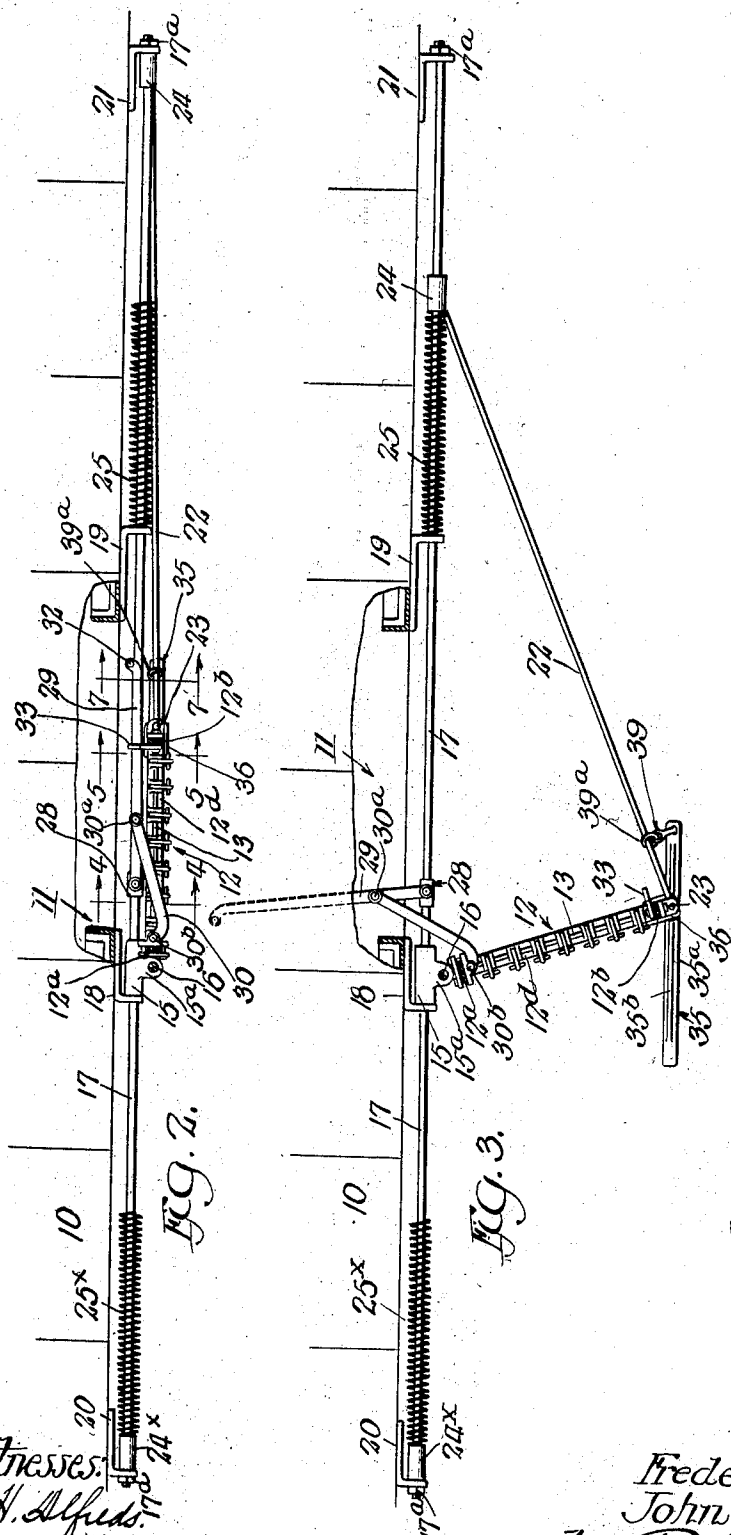


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2 SHEETS—SHEET 2.



Witnesses:
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L. R. Wilkins

Inventors:
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John W. Eskholme
by Paul H. Brown Attys

UNITED STATES PATENT OFFICE.

FREDERICK E. COYNE AND JOHN W. ESKHOLME, OF CHICAGO, ILLINOIS, ASSIGNORS TO SEBREE MAIL EXCHANGING DEVICE CO., OF CARROLLTON, KENTUCKY, A CORPORATION OF DELAWARE.

RAILWAY MAIL CATCHING AND DELIVERING APPARATUS.

1,016,478.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed August 3, 1911. Serial No. 642,066.

To all whom it may concern:

Be it known that we, FREDERICK E. COYNE and JOHN W. ESKHOLME, citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway Mail Catching and Delivering Apparatus; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in railway mail catching and delivering apparatus, and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The invention, as disclosed herein, is shown as particularly applied to railway catching and delivering apparatus of the type described in Letters Patent Nos. 884,868, dated April 14, 1908, and 939,557, dated November 9, 1909, granted to W. T. Sebree, in which the mail sacks or pouches are adapted to be caught in chain nets carried respectively by the car and by a crane at the side of the road bed, said nets being secured to frames hinged respectively to the car and to the road side crane.

The device includes supporting members one for the car and one for the road side crane, adapted for the support of the mail pouches in alinement with the respective chain nets within which they are to be caught.

The invention relates particularly to the mechanism for operating the net-carrying frame to bring it into operative position for catching and delivering a mail pouch or pouches.

The invention also relates to other features of construction, which will be pointed out more particularly as we proceed with the specification.

In the drawings—Figure 1 is a side elevation of a railway mail car showing the net-carrying frame secured to the side of the car and the devices by which it is supported and operated; Fig. 2 is a view representing a horizontal section through the car on the line 2—2 of Fig. 1, the net-carrying frame, in this case, being shown in closed position, that is to say the position it normally occu-

pies when not in operation; Fig. 3 is a view similar to Fig. 2, showing the net-carrying frame in open position ready to catch a mail pouch or pouches supported by the road side crane; Fig. 4 is a view representing a partial section through Fig. 2 on the line 4—4 thereof; Fig. 5 is a view representing a partial vertical section through Fig. 2 on the line 5—5 thereof; Fig. 6 is a view similar to Fig. 5, showing the parts in the position they occupy when the net-carrying frame is swung to one side of the mail car door in order that it may not be in the road when mail pouches are thrown into and out of the mail car as when standing at rest in a station; Fig. 7 is a view representing a partial vertical section through Fig. 2 on the line 7—7 thereof.

Referring now in detail to that embodiment of my invention illustrated in the drawings, 10 indicates a railway mail car, and 11, the usual door opening in the side wall thereof through which the mail pouches are taken on or off the car.

12 indicates an open rectangular frame, which is hinged to the side of the car at one side of the door opening 11, and which is adapted for the support of a chain net (not shown) by means of which the mail pouch or pouches supported in line with it by the road side crane, are caught when the car passes said crane, as described in the patents above referred to. Said frame comprises vertical members 12^a, 12^b, and upper and lower horizontal members 12^c, 12^d. Said vertical and horizontal members of the frame are each provided with rods or bars 13 to which the ends of the chains forming the net are adapted to be secured, as described in an application filed on the 3rd day of August, Serial No. 642,067. The construction and attachment of the chain net form no part of the present invention and a further description thereof will therefore be unnecessary.

The upper and lower horizontal bars 12^c, 12^d of the net-carrying frame are prolonged at one side of the frame and are hinged to blocks 14 and 15. As shown in the drawings, the said blocks are each provided with a pair of vertically spaced lugs 14^a and 15^a respectively, between which the ends of said horizontal frame bars are engaged, the lugs and bars being provided with suitable aper-

tures to receive a vertical pivot rod 16 which constitutes the pintle of the hinge connection. Nuts or other suitable means at the ends of said rod retain it in place. The lower block 15 is loosely mounted on a horizontal rod 17 which extends across the door opening 11 and beyond the vertical sides thereof, as clearly illustrated in the drawings, said rod being supported by means of apertured plates 18, 19, secured to the outside wall of the car at either side of the door opening 11 adjacent its vertical sides, and apertured plates 20, 21, secured to the outside wall of the car at points at either side of the said door opening and remote from the vertical sides thereof. The ends of the rod 17 are threaded to receive nuts 17^a, 17^b, which bear against the plates 20 and 21 and act to hold said rod against longitudinal movement. The end of the block 15 bears against the plate 18.

22 indicates a link which connects the swinging side of the frame 12 with a sliding block 24 mounted on the rod 17. Said link is pivotally connected at one end to a lug 23 removably secured to the vertical frame member 12^b near its lower end. The opposite end of the link 22 is pivotally connected to the said sliding block 24. A coiled spring 25 is located on the rod 17 with one end engaging against the plate 19 and the other end in position to be engaged by the sliding block 24, when said block by reason of its connection through the link 22 with the net frame 12, has been brought to a predetermined position as the frame 12 is swung into open position as illustrated in Fig. 3. Said predetermined position of the block 24 when it first engages the end of the coiled spring 25 determines the angular position with reference to the car side that the frame 12 stands when brought into open position.

The upper block 14 to which the net-carrying frame is hinged, is mounted on a horizontal rod 26 located near the top of the door opening and extending transversely thereacross, the same being secured to the car side by means of apertured plates 27, 27^a secured to the outside wall of the car at either side of the door opening at points adjacent its vertical sides. Said rod 26 is held against longitudinal movement by means of suitable nuts secured to the ends thereof beyond its supporting plates.

In order to bring the net-carrying frame into open position, we provide the following operating mechanism: Upon the rod 17, adjacent the lower block 15, to which the net-carrying frame is hinged, is removably secured a block 28. To said block is pivotally connected an operating lever 29, which is adapted to swing in a horizontal plane. 30 indicates a link pivotally connected at 30^a to the lever 29 and at 30^b to the vertical

member 12^a of the net-carrying-frame near its lower end, both pivotal connections being such as to provide for horizontal swinging movement. For a purpose presently to be described the pivotal connections are preferably such that the link may be disconnected in order that it may be reversed. To bring the net-carrying frame into open position, the lever 29 is swung inwardly, as shown in Fig. 3, which causes said frame to swing outwardly. When the net frame is in closed position, the operating lever 29 and the link 30 occupy the relations to the said frame illustrated in Fig. 2, in which the operating lever appears as extending parallel to the rod 17. At the free end of the operating lever are provided upwardly and downwardly extending pins 32, 32^a, which not only serve as handles for grasping the end of the lever, but one of which, the lower one 32^a, as shown in the drawings, is adapted to engage against the rod 17 when the operating lever 29 is moved into the position shown in Fig. 2, thus limiting the outward swing of the lever. (See Fig. 7). To lock the frame 12 when in closed position against movement toward its open position, a hook 33 is pivotally connected to the lower horizontal frame member 12^a near its free end, so as to swing in a vertical plane, and is adapted, when the frame is in closed position to be hooked over the lever 29 thus locking the parts together.

When it is desired to use the full door opening 11, as when throwing mail pouches through the same, when the mail car is being loaded or unloaded while standing at a station; it is necessary to get the net-carrying frame out of the road. In this case, the link 22, forming the connection between the rod 17 and the swinging frame, is disconnected from the net-carrying frame at one end and from the sliding block 24 at the other end, and the link 30, forming the connection between the swinging frame and the operating lever 29, is disconnected from said frame and lever, whereupon said frame may be swung outwardly away from the door opening 11, and may be brought to a position indicated in dotted lines in Fig. 1, whereupon the hook, which is preferably provided with oppositely extending detents, may be swung down into engagement with the rod 17, as shown in Fig. 6, the interlocking engagement of said hook and rod holding the net frame in the position referred to. In this case the lever 29 may be swung into parallel relation with the rod 17 so as to be out of the road, or may be removed from its connection with said rod by detaching the block 28 to which it is pivotally connected.

To support the mail pouches from the car side in position to be caught in the net carried by the road side crane, the following device is provided: 35 indicates a horizontal

bar located below the net-carrying frame and pivotally connected thereto so as to be capable of horizontal swinging movement relatively to the plane of said frame. As shown in the drawings, said bar comprises a horizontal web 35^a and a vertical strengthening web 35^b which is thickened intermediate its ends to form a boss 35^c having formed therein a vertical aperture. A casting 36 is secured to the outer free end of the lower horizontal bar 12^a of the net-carrying frame, and is provided with a vertical depending reduced end 37^a which extends through the vertical aperture in the boss 35^c of the horizontal bar and has a cotter pin inserted near its end for holding said bar in position. The bar 35 is provided with a plurality, in this case two, hooks, 38, 38, the ends of which extend in a direction opposite to that in which the mail car is traveling so that a mail pouch or mail pouches suspended from said hooks will be dislodged therefrom by the advancing movement of the car when they strike the road side net supported in their path by the road side crane. The end of each hook is protected by a spring 38^a secured to the under side of the bar 35 so as to bear yieldingly against the free end of said hooks. These springs prevent the accidental dislodgment of the mail pouches from the hooks. The bar 35, when the frame is in closed position normally stands in the plane of said frame. One end of said bar has connected to it a ring-bolt 39, which is connected by a sliding ring 39^a with the link 22. By this construction when the frame is swung into open position, the bar 35 is caused to assume a position substantially parallel with the car side. When the mail pouches carried by said bar are struck by the road side net, the mail pouches are carried off the hooks by the force of the blow, the springs 38^a yielding to permit the disconnection.

The operation of the improved construction is apparent from the above description. When a mail delivery station is approached, the mail clerk hangs the mail pouches, one or more, as the case may be, upon the hooks 38 while the frame is in closed relation to the car side, as indicated in Fig. 2, this position making it unnecessary for the mail clerk to lean out of the door when affixing the mail pouches to the bar 35. The mail clerk then grasps the handle 32 and stepping back into the car pulls said handle with him as he does so, thus swinging the operating lever and causing the frame to assume the open position indicated in Fig. 3. As the car passes the station the mail pouch or pouches carried by the road side crane are caught by the car side net, and the pouches carried by the bar 35 are at the same time caught in the road side net. As the mail pouch or pouches strike the car side net, the

net frame is caused by the force of the blow to swing into a more open position, thus sliding the block 24 along the rod 17 toward the door opening and compressing the spring 25. The reaction of the spring 25 slides the block 24 along the rod 17 in the opposite direction and pulls with it the link 22, connecting said sliding block with the net supporting frame, thus causing said frame to come into the closed position illustrated in Fig. 2. The pouches are then taken from the net and deposited by the mail clerk, the whole operation having been performed without the mail clerk having exposed himself in the doorway, or without having to project any part of his body beyond the plane of the side wall of the car. This is particularly important as it prevents the possibility of accidents to the mail clerk. A second coiled spring 25^{*} is mounted on the rod 17 between the plates 20 and 18 and a second block 24^{*} is mounted on that end of the rod, said spring and block being adapted for use when it is desired to reverse the position of the swinging net frame and hinge it to the right hand side of the doorway instead of to the left as shown in the drawings, in order that the device may properly operate when the train is going in a direction opposite to that contemplated by the arrangement illustrated in the drawings. In this case it is simply necessary to disconnect the links 22 and 30, detach the block 28 to which the operating lever is connected, and slide the blocks 14 and 15 to which the frame is hinged along the rods 17 and 26 until they come to bear against the plates 19 and 27^a, at the opposite side of the door opening. The rod 22 is then connected to the block 24^{*}, the block 28 replaced in a new location on the rod 17 corresponding to the new position of the swinging frame and the link 22 adapted for connecting the operating lever with said frame, reversed, and properly connected with the frame and operating lever.

We claim as our invention:

1. In a device of the character described, in combination with a car provided with a door opening, a rod extending horizontally across said door opening and being secured to the car side, a second horizontal rod secured to said car side near the top of said door opening, vertically aligned blocks, one mounted on each of said rods, a net-carrying frame hinged to said blocks and being adapted to close against said rods, an operating lever adapted to swing in a horizontal plane into said car and having pivotal connection to one of said horizontal rods at a point near the hinged connection of said net-carrying frame, and a link pivotally connected at one end to said operating lever near the pivotal connection of said lever with said rod and at its other end

to the said net-carrying frame near its hinged connection, the pivotal connection of the operating lever with said rod being located between the hinged connection of said frame and the pivotal connection of said link to said operating lever when the said frame is in closed position.

2. In a device of the character described, in combination with a car provided with a door opening, a rod extending horizontally across said door opening and being secured to the car side, a second horizontal rod secured to said car side near the top of said door opening, vertically alined blocks, one mounted on each of said rods, a net-carrying frame hinged to said blocks and being adapted to close against said rods, an operating lever adapted to swing in a horizontal plane into said car and having pivotal connection to said lower horizontal rod at a point near the hinged connection of said net-carrying frame, a link pivotally connected at one end to said operating lever near the pivotal connection of said lever with said rod and at its other end to the said net-carrying frame near its hinged connection, the pivotal connection of said lever to said rod being spaced from the axis of the hinged connection of said frame in proportion to the length of said link so that when said frame is in closed position the lever will extend substantially parallel thereto, and means carried by said frame adapted to lock said frame and lever together in closed position.

3. In a device of the character described, in combination with a car provided with a door opening, a rod extending horizontally across said door opening and being secured to the car side, a second horizontal rod secured to said car side near the top of said door opening, vertically alined blocks, one mounted on each of said rods, a net-carrying frame hinged to said blocks and being adapted to close against said rods, an operating lever adapted to swing in a horizontal plane into said car and having detachable pivotal connection to said lower horizontal rod at a point near the hinged connection of said net-carrying frame, a detachable, reversible link pivotally connected at one end to said operating lever near the pivotal connection of said lever with said rod and at its other end to the said net-carrying frame near its hinged connection, the pivotal connection of said lever to said rod being spaced from the axis of the hinged connection of said frame in proportion to the length of said link so that when said frame is in closed position the lever will extend substantially parallel

thereto, a part carried by said lever adapted to engage said lower rod and limit the outward movement of said lever, and means carried by said frame adapted to lock said frame and lever together in closed position.

4. In a device of the character described, in combination with a car provided with a door opening, a rod extending horizontally across said door opening and being secured to the car side, a second horizontal rod secured to said car side near the top of said door opening, vertically alined blocks, one mounted on each of said rods, a net-carrying frame hinged to said blocks adapted to close against said rods, a sliding block on said lower rod remote from said door opening, a link having pivotal connection at one end with said frame at a point near its free side, and at the other end with said sliding block, a bar capable of horizontal swinging movement located below said frame and having rotative connection therewith, an auxiliary link connecting said bar with said first-named link and depending hooks carried by said bar.

5. In a device of the character described, in combination with a car provided with a door opening, a rod extending horizontally across said door opening and being secured to the car side, a second horizontal rod secured to said car side near the top of said door opening, vertically alined blocks, one mounted on each of said rods, a net-carrying frame hinged to said blocks and being adapted to close against said rods, an operating lever adapted to swing in a horizontal plane into said car and having detachable pivotal connection to one of said horizontal rods at a point near the hinged connection of said net-carrying frame, and a detachable, reversible link pivotally connected at one end to said operating lever near the pivotal connection of said lever with said rod and at its other end to the said net-carrying frame near its hinged connection, the pivotal connection of said lever to said rod being spaced from the axis of the hinged connection of said frame in proportion to the length of said link so that when said frame is in closed position the lever will extend substantially parallel thereto.

In testimony, that we claim the foregoing as our invention we affix our signatures in the presence of two witnesses, this 24th day of July A. D. 1911.

FREDERICK E. COYNE.
JOHN W. ESKHOLME.

Witnesses:

LUCIUS W. BECTEL,
EUGENE C. HALL.