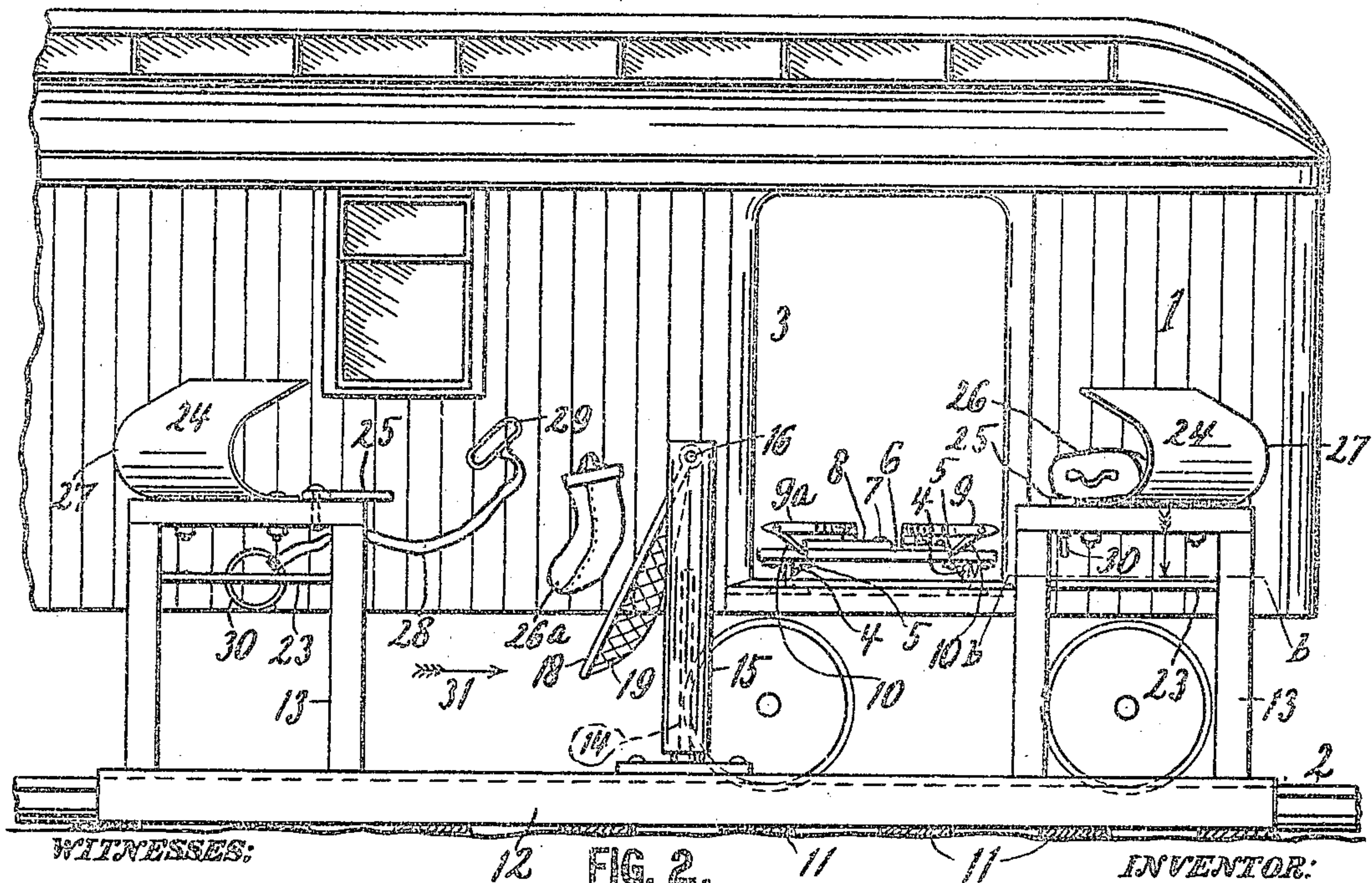


962,571.

2 SHEETS—SHEET 1.



WITNESSES:

12 FIG. 2.

INVENTOR:

D. E. Carlsen.
C. C. Carlsen.

Albert J. Hughes.
BY HIS ATTORNEY:
A. M. Carlisle.

A. J. HUGHES.
MAIL CATCHING AND DELIVERING DEVICE.
APPLICATION FILED JAN. 11, 1909.

962,571.

Patented June 28, 1910.

2 SHEETS—SHEET 2.

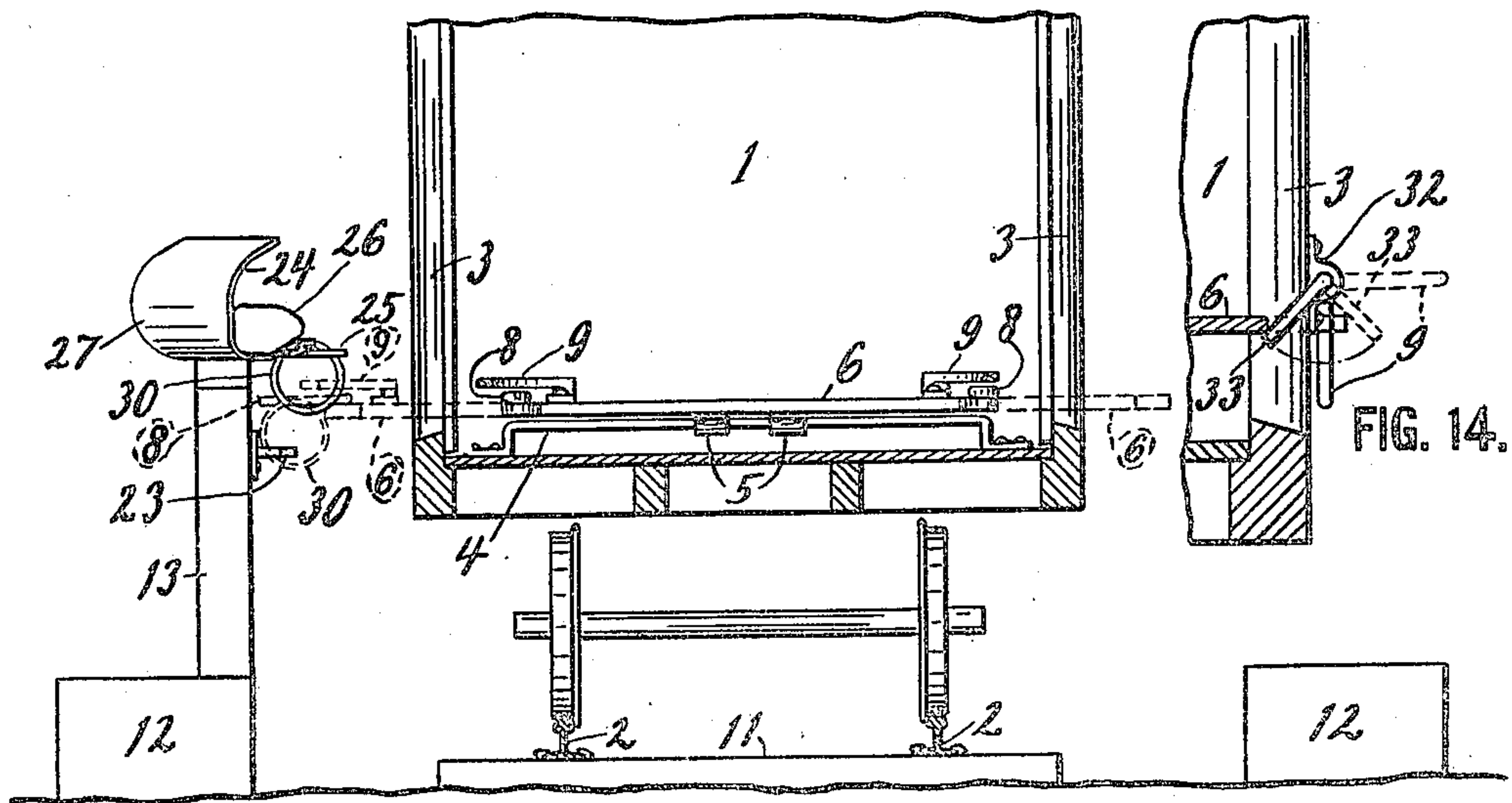
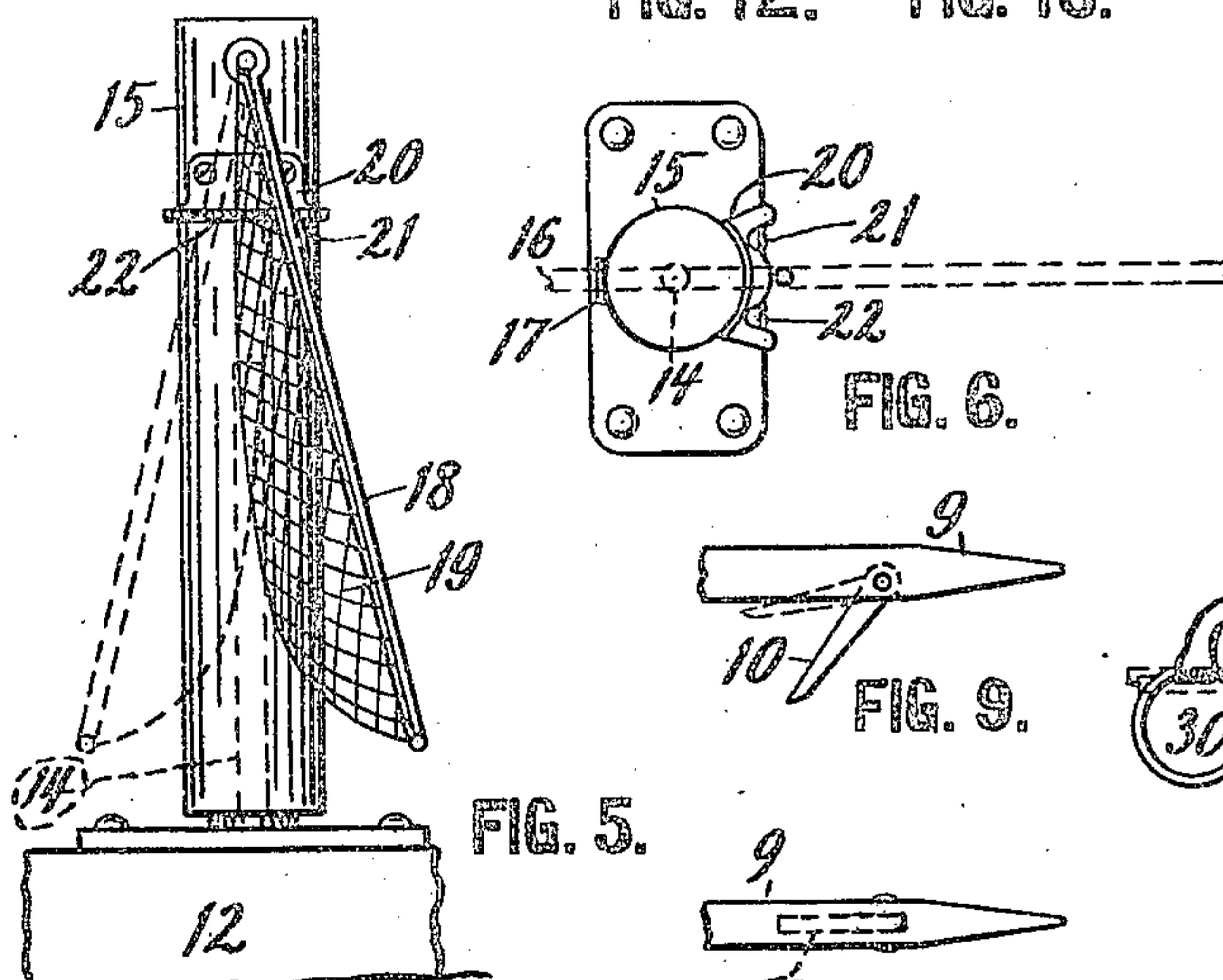
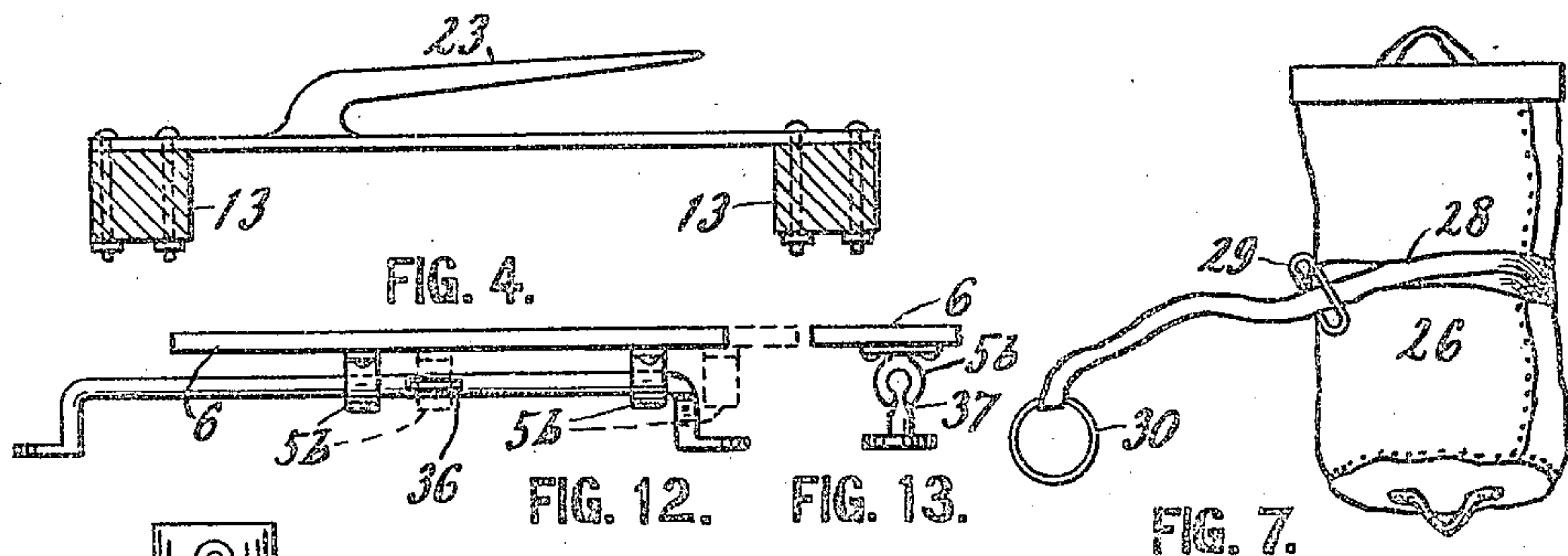


FIG. 3.



WITNESSES:

D. E. Carlsen.
C. C. Carlsen.

INVENTOR:

Albert J. Hughes.
BY HIS ATTORNEY:
A. M. Carlsen.

UNITED STATES PATENT OFFICE.

ALBERT J. HUGHES, OF ST. PAUL, MINNESOTA.

MAIL CATCHING AND DELIVERING DEVICE.

962,571.

Specification of Letters Patent. Patented June 28, 1910.

Application filed January 11, 1909. Serial No. 471,607.

To all whom it may concern:

Be it known that I, ALBERT J. HUGHES, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Mail Catching and Delivery Device, of which the following is a specification.

This invention relates to mail-bag catchers of the kind by which a moving mail car catches and delivers mail-bags at stations where the train does not stop; and the object is to provide a very efficient and reliable device of said kind.

In the accompanying drawings, Figure 1 is a top or plan view of my device arranged on the ground near a railway track and on a portion of a mail car adjacent thereto on the track, the roof or upper part of the car being removed. Fig. 2 is a side elevation of a mail car in the act of passing a station equipped with my invention. Fig. 3 is a cross section on the line *a—a* in Fig. 1. Fig. 4 is a sectional top view on the line *b—b* in Fig. 2. Fig. 5 is an enlarged side view of a rotary post and a netting held by it for taking the blow of a mail-bag that is delivered from the car. Fig. 6 is a top view of Fig. 5. Fig. 7 is a mail pouch or bag with a strap around it for purposes to be later described. Fig. 8 is Fig. 7 with the strap differently arranged. Fig. 9 is a detail side view of one of the catcher arms mounted on the car for catching the mail-bags. Fig. 10 is a top view of Fig. 9. Fig. 11 is a modification of the upper portion of Fig. 1. Fig. 12 is a side view of one of the table-supporting bars in the Fig. 11 and one of the tables resting thereon. Fig. 13 is an end view of Fig. 12. Fig. 14 is a vertical section on the line *c—c* in Fig. 11 with the bag catching hook in dotted lines in one position and full lines in another position.

Referring to the drawings by reference numerals, 1 designates a mail-car supposed to be moving along on rails 2 of a railroad. Between the opposite doors 3 of the car I secure upon the floor of the car (as in Fig. 1) two rails or bars 4, which are supported at their ends some distance above the floor. On these rails slide bearings 5 which are fixed at the underside of a table 6, which may thus be moved on the rails to project out at either side of the car, as shown in dotted lines in Fig. 3, or to the middle of the floor to permit closing of either or both of the regular doors of such cars.

Upon each end of the table is pivoted at 7 a spring fork 8, and at each side thereof is fixed a catcher arm 9, near the free end of which is pivotally suspended a guarding finger 10 (see Fig. 9), which hangs normally downward as shown in full lines and may be swung inward as shown in dotted lines.

At or near the station is fixed to the railway ties 11 or to the ground beyond them a plank or platform 12, upon which are fixed at a suitable distance apart, two similar frames 13, and half way between said frames is fixed a standard 14, upon which is mounted to rotate a post 15. Near the top of said post is journaled a shaft 16, having its short end retained by a pin 17 and its long end extended sufficiently beyond the post to support the upper end of a frame 18 on which is fixed a netting 19. The latter is slack and bulging in the middle so that the mail pouch thrown from the car and hitting it will land in it and revolve the post until the momentum of the bag is spent, and thus come to a standstill without being damaged. In order to make this part of my invention effective for catching mail bags from cars moving in either direction, the post is provided with a bracket 20 (see Fig. 6) having two notches 21 and 22, into either of which the adjacent edge of the frame may be sprung and thus hold the net alternately in oppositely slanting positions according to the direction from which the mail is expected. Besides slanting the net as described, the frame of it is always turned toward the track of the road as in Fig. 1 when it is to catch mail.

On each of the frames or stands 13 is fixed a catcher arm 23 pointing horizontally one away from the other. There is also pivoted on each stand a spring fork or clasp 25, and adjacent thereto is fixed a U-shaped shield 24, whose lower portion supports the mail bag 26 (see Fig. 2) to be taken by the car, while the upper part of the shield protects the bag from rain and snow. Said shields slant horizontally toward the car with the ends 27.

In the operation of the device, the mail bag to be delivered from the car is placed upon the outer end of the table 6, as in dotted lines 26^a in Fig. 1 and a strap 28 is taken across it as in Fig. 8. Said strap has at one end an elongated ring 29, which is placed upon the fork, and at its other end a round ring 30, which is spring-held by its

upper edge between the springy tines of the fork 8 as shown in said Fig. 8. The bag 26 that is to be delivered to the car is placed upon the stand 13 that is the last one of the
 5 two for the car to pass; that is, the stand to the right in Figs. 1 and 2, the car moving in the direction of the arrow 31.

On the last mentioned bag the strap 28 is applied in the manner shown in Fig. 7
 10 by taking it once or twice around the bag. The end with the round ring is then inserted through the oblong ring, the bag is placed on the stand as in Fig. 1 (where the shield is partly broken away to expose the bag to
 15 view) and the round ring is pushed between the tines of the fork 25 in suspended position below the fork and the latter is turned toward the car track. With the parts thus arranged, when the car comes along, the
 20 ring 30 suspended from the fork or clasp 8 on the car is caught by the arm 23 as shown to the left in Figs. 1 and 2. This pulls the bag from the car and as the ring 29 leaves the clasp 8, said clasp is turned to one side
 25 as in Fig. 1 and the mail bag is by the motion of the car thrown as shown at 26^a in Fig. 2 against the net 18, with the result already described. The further motion of the car causes the catcher arm 9 of the car
 30 to engage in the suspended ring 30 at the stand. This swings the clasp 25 in the direction the car is moving, snatching from it the said ring and throwing the mail bag 26
 35 being partly effected by the slanting position of the shield 24, which acts as an inclined plane against the outer side of the bag as the car pulls it along to remove it from the stand. Should the bag rebound
 40 out of the car, or be poorly delivered to the car owing to extra slow or extra high speed of the car, the latch 10 on the arm will prevent escape of the ring therefrom and the bag will be hanging on the arm until taken
 45 in by some occupant of the mail car. This will hardly ever happen but I mention it to show the utter completeness of the device. If the car moves in the opposite direction the catcher arms 9^a and 23^a will operate in
 50 the same manner as the arms 9 and 23 in the operation just described.

In the modification Fig. 11 is shown that the catcher arms 9 and 9^a may be mounted on the side of the car, where they rock in
 55 bearings 32 and are each provided with a rocker arm 33, which is operated by a catch 34 on the adjacent corner of the table 6^a, so that when the latter is pushed out to its limit the catcher arms will stand out from
 60 the side of the car, in operative position as shown, and when the table is moved into the car the catcher arms will fold and hang downward to the side of the car. In said view the table is also modified by being
 65 made in two sections or independent tables

6^a, each of which has its own pair of rails 4^a, to one of which the table is permanently hinged by two of its supporting bearings 5^a, serving as hinges in raising up the table out of the way as in the upper part of Fig. 11,
 70 near one of the inclosures or partitions 35, common in such cars. The other bearings 5^b are open in their lower ends as shown in Fig. 13 to permit raising of the table, still they are not as open as to rise from any
 75 and all parts of the rail but only when one of them is moved to a laterally reduced portion 36 of the rail and the other is passed beyond the inner end of the rail, which is made possible by notching the support of
 80 that end of the rail, as at 37 in Fig. 13. The table is held in the upright position by any suitable means (not shown) or may simply lean against the screen 35 if the latter is far enough away to give the table the
 85 necessary incline to keep it in that position. The advantage of these modifications are, that the tables will be more out of the way for handling heavy mails to and from the
 90 car and the longitudinal central aisle or passage through the car is also left unobstructed by the rails for the tables. It will be understood however that where so desired the obstruction caused by the rails may
 95 be almost entirely removed by either lowering the rails flush with the floor in grooves formed in the floor when the car is being built, or which may be formed upon an existing floor by nailing woodwork upon it
 100 a high as the rails and bevel the outer edges thereof or else let it extend all over the floor of the car.

While the invention is very efficient as an actual mail bag catcher when made of the proper size for that purpose, I may also use
 105 it for the exchanging of packages of any kind to and from a moving carrier of any description, and when made of an appropriate size the device will be an interesting
 110 toy for children to play with.

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

1. A mail-catcher comprising a table adapted to be projected from the door opening of a mail car, a clasp pivoted to swing
 115 horizontally upon the projected end of the table, two oppositely pointing horizontal catcher arms carried by the car, two stands on the ground near the car track, on each stand a clasp pivoted to swing horizontally
 120 thereon and adjacent thereto a support for a mail bag, a horizontal catcher arm on each stand, each arm pointing in opposite direction and away from the other arm, two
 125 straps, each of which is adapted to be taken around a mail bag and having at each end a ring, the ring at one end being adapted to pass through the ring at the other end, all to be operated substantially as set forth.

2. A mail-catcher comprising a table 130

adapted to be projected from the door opening of a mail car, a clasp pivoted to swing horizontally upon the projected end of the table, two oppositely pointing horizontal
 5 catcher arms carried by the car, two stands on the ground near the car track, on each stand a clasp pivoted to swing horizontally thereon and adjacent thereto a support for a mail bag, a horizontal catcher arm on each
 10 stand, each arm pointing in opposite direction and away from the other arm, two straps, each of which is adapted to be taken around a mail bag and having at each end a ring, the ring at one end being adapted to
 15 pass through the ring at the other end, a round standard fixed intermediate of the stands, a post turning on the standard, a framed net projecting from one side of the post and means on the post for holding the
 20 net in oppositely inclined positions, all to be operated as described.

3. A mail-catcher comprising a table adapted to be projected from the door opening of a mail car, a clasp pivoted to swing
 25 horizontally upon the projected end of the table, two oppositely pointing horizontal catcher arms carried by the car, two stands on the ground near the car-track, on each stand a clasp pivoted to swing horizontally
 30 thereon and adjacent thereto a support for a mail bag, a horizontal catcher arm on each stand, each arm pointing in opposite direction and away from the other arm, two straps, each of which is adapted to be taken
 35 around a mail bag and having at each end a ring, the ring at one end being adapted to pass through the ring at the other end, said table being slidably mounted in the car and so related to the catcher arms as to cause
 40 them to project into active position beyond the side of the car when the table is projected out of the car door to support the mail bag to be delivered from the car.

4. The combination with a mail car, of
 45 one or more tables adapted to be projected out of the open doors of the car, of rail bars fixed to the car and bearings slidable thereon and fixed to the under side of the table.

5. The combination with a mail car, of 50 one or more tables adapted to be projected out of the open doors of the car, of rail bars fixed to the car and bearings slidable thereon and fixed to the under side of the table, the bearing on one rail being detach- 55 able from the rail when the table is retracted into the car, the bearings on the other rail serving as hinges on which to swing the table to an edgewise standing position in the car. 60

6. A mail-bag catching and delivering device involving a strap adapted to engage a mail bag, said strap having at one end an elongated ring and at the other end a round
 65 ring adapted to be passed through the elongated ring and be placed in such a position that a catcher arm may pass into it, and catcher arms on the device for engaging said ring.

7. A mail-bag catching device involving 70 one or more stands fixed on the ground near the track on which a mail car moves, each stand being adapted to support a mail bag, a guiding shield on the stand adjacent the bag supporting point, said shield ar- 75 ranged at an angle to the track for directing the bag toward the car, and means on the car for catching the bag from said stand.

8. A mail-bag catching device involving one or more stands fixed on the ground near 80 the track on which a mail car moves, each stand being adapted to support a mail bag, a guiding shield on the stand adjacent the bag supporting point, said shield arranged at an angle to the track for directing the 85 bag toward the car, and means on the car for catching the bag from said stand; said shield extending up along the side of the bag farthest from the road and being curved toward the road to form a roof over the bag, for the 90 purposes set forth.

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

ALBERT J. HUGHES.

Witnesses:

GEORGE LA FOND,
 JOHN G. WILLIS.