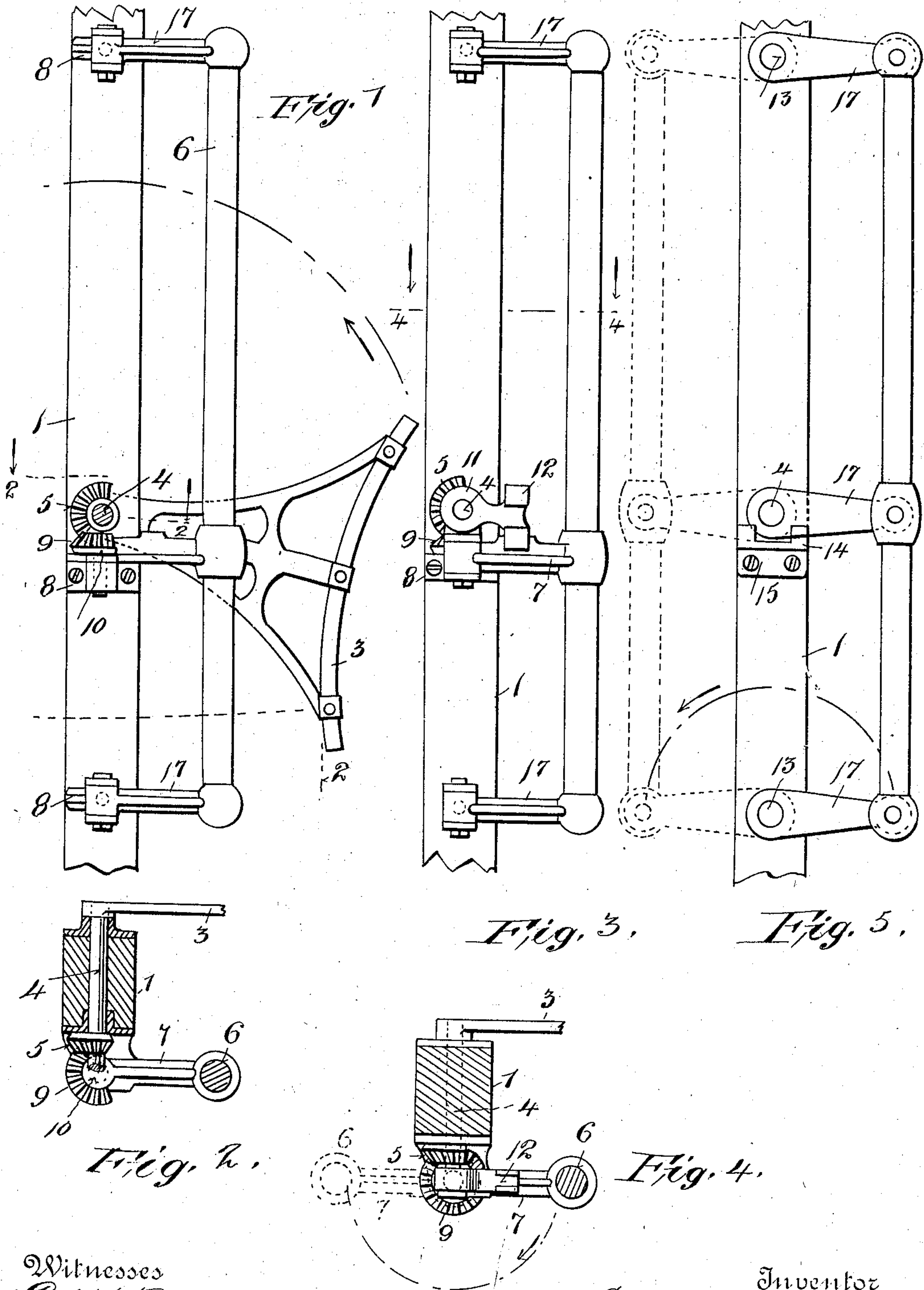


No. 791,252.

PATENTED MAY 30, 1905.

S. M. CURWEN.
GRAB HANDLE FOR RAILWAY CARS.
APPLICATION FILED SEPT. 6, 1904.

2 SHEETS—SHEET 1.



Witnesses
C. W. Benjamin
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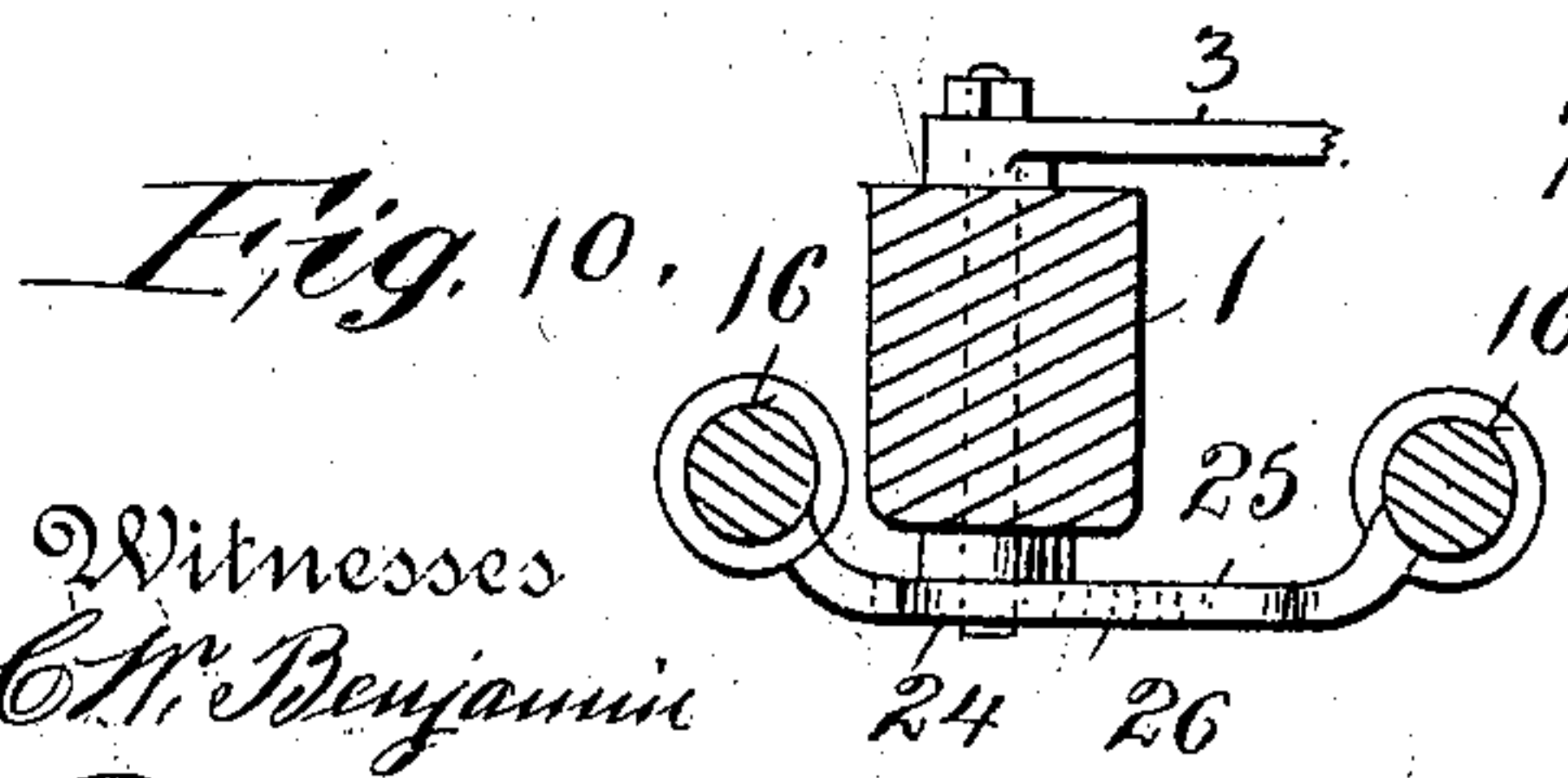
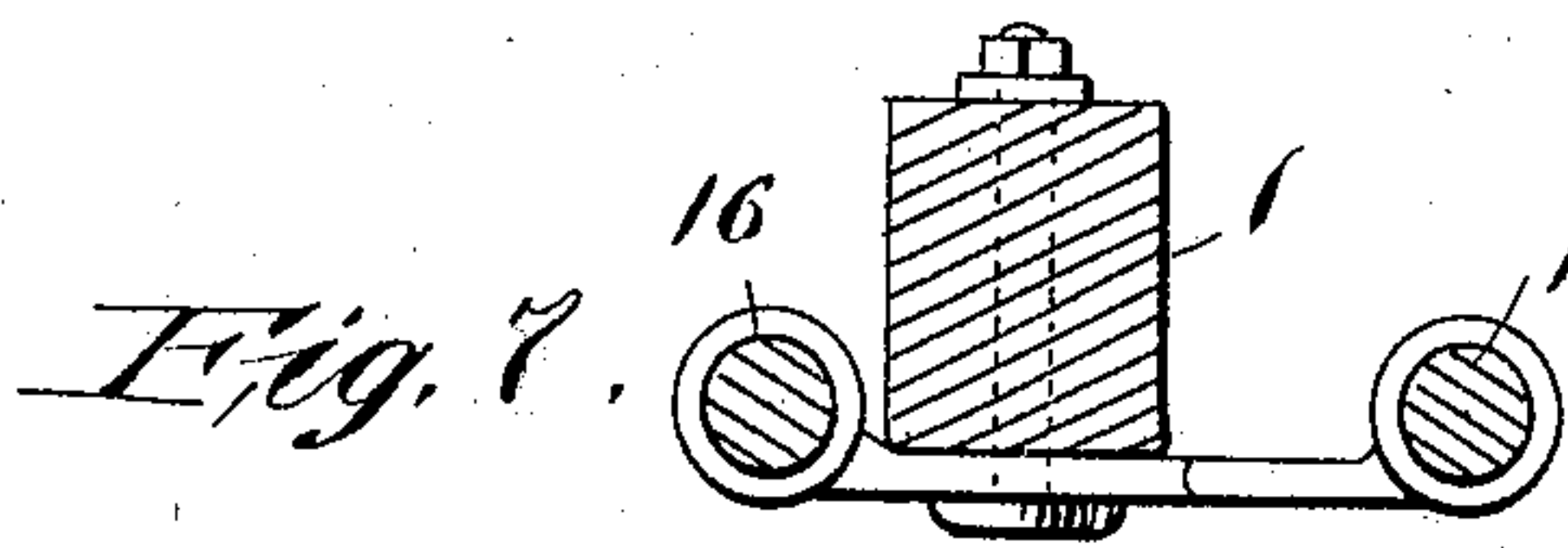
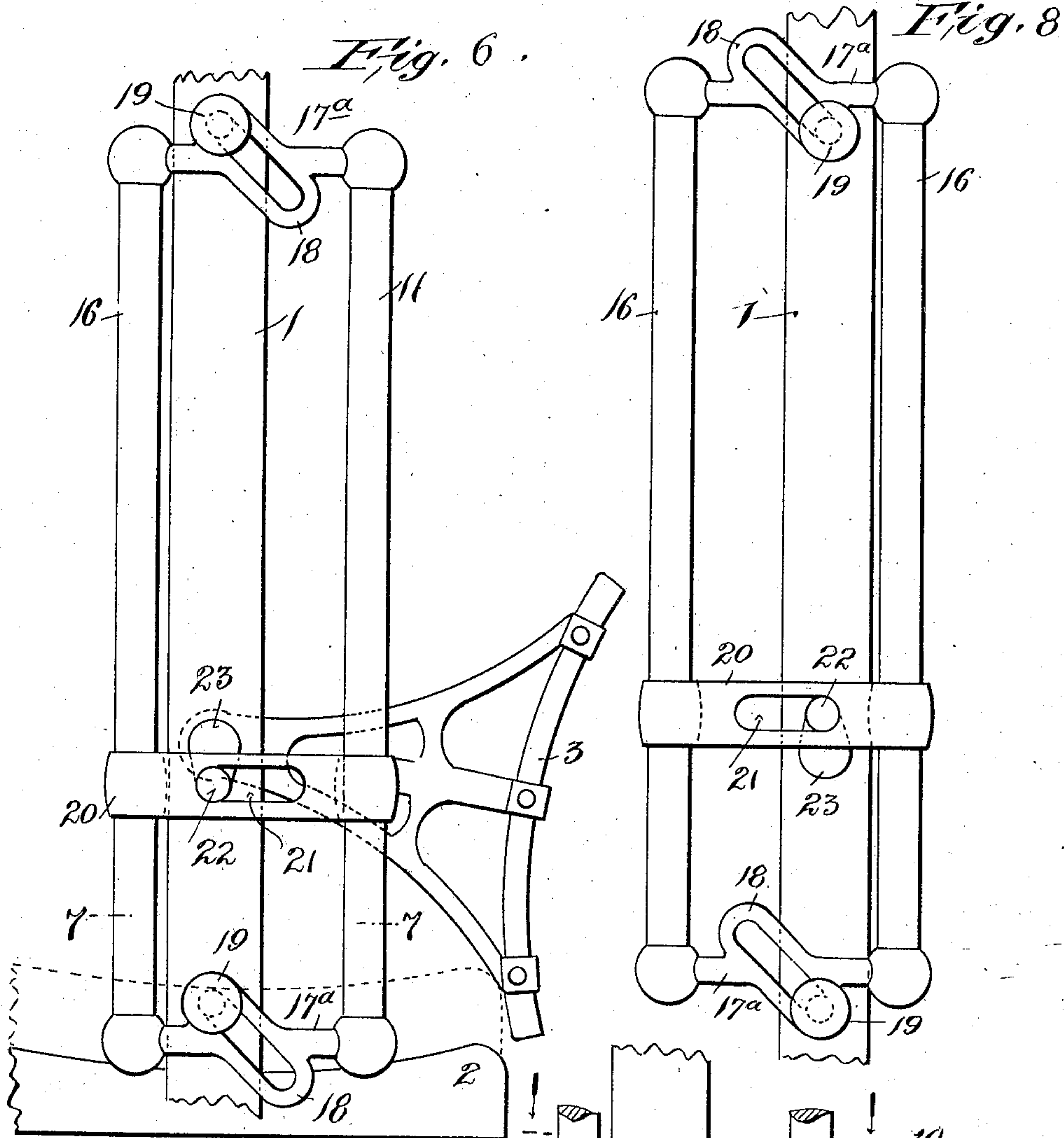
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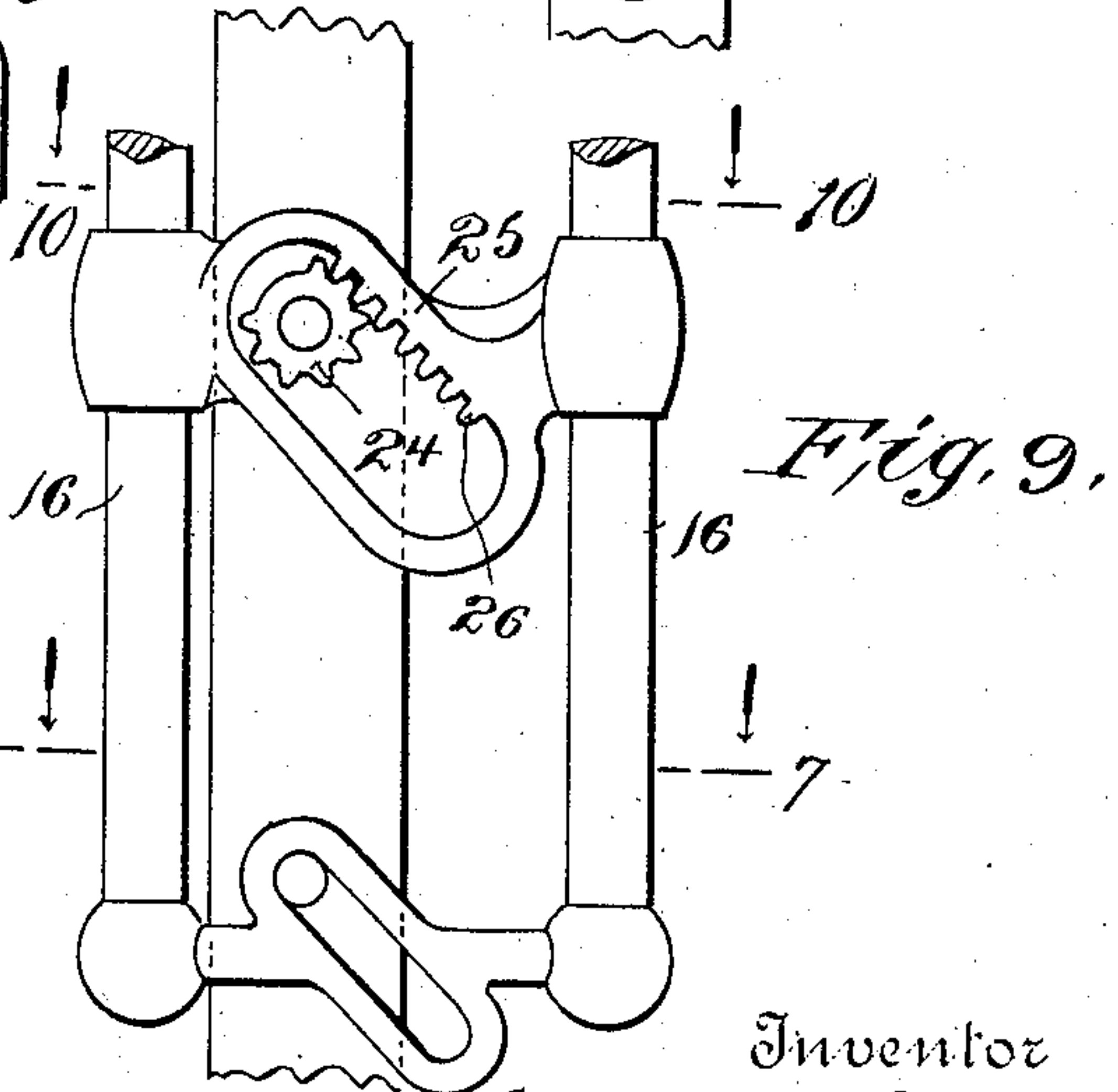
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2 SHEETS—SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

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GRAB-HANDLE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 791,252, dated May 30, 1905.

Application filed September 6, 1904. Serial No. 223,544.

To all whom it may concern:

Be it known that I, SAMUEL M. CURWEN, a citizen of the United States, residing in Haverford, Montgomery county, State of Pennsylvania, have invented certain new and useful Improvements in Grab-Handles for Railway-Cars, of which the following is a specification.

In the class of cars known as "open" cars, in which the passengers enter and leave the car through side openings defined by the car side posts, many accidents are caused by persons facing the wrong direction when leaving the vehicle. In order to overcome to a great extent the possibility of such accidents, I have devised a grab-handle for the car side posts which will be movable thereon and which will induce the passenger to grab the handle in front, thereby inducing him to face the proper direction when leaving the car. In this respect I believe I am the first to produce a handle attached to a car-post which may be shifted in a direction longitudinally of the car.

The details of the construction of my improvements are hereinafter described, and further pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a side elevation of a car-stanchion with one form of my improvements attached. Fig. 2 is a partly-sectional view showing the operation and mounting of the gears. Fig. 3 is a side elevation showing the addition of the locking-arm. Fig. 4 is a section on the line 4 4 of Fig. 3 looking in the direction of the arrows. Fig. 5 is an elevation of a modified form of handle. Fig. 6 is an elevation of another form. Fig. 7 is a sectional view taken on the line 7 7 of Fig. 6. Fig. 8 is a side elevation of the same, showing the position of the handle when the seat-back is reversed. Fig. 9 is a side elevation showing a modification of Fig. 6, and Fig. 10 is a section on the line 10 10 of Fig. 9.

In the various views I have shown my invention as applied to the ordinary car side posts or stanchions 1, against which an ordinary seat 2 abuts, and the seat-back 3.

Upon first taking up the constructions shown in Figs. 1 to 4 it will be seen that my improved handle is adapted to be shifted by the seat-

back 3 when the latter is thrown over. In Fig. 1 the seat-back is pivoted to a post at the end of the seat-arm, so that the pin 4 passes through the stanchions in which it has its bearing and is provided on the outer side of the stanchion with a gear 5. Instead of the ordinary handle applied to the stanchion I have applied a handle 6, held by the arms 7 at a point sufficiently distant laterally from the post to allow for grabbing the handle. The handle 6 is made to swing to either side of the post, according to the direction in which the car moves, and for this purpose the arms 7 are fulcrumed on suitable supports 8, arranged along the stanchion, and may be of any desired number, although I have found three arms, as illustrated, to be the most desirable. On the central arm 7 I have provided the gear 9, which lies horizontally and is adapted to mesh with the gear 5, together with which the same forms a miter engagement. From this construction it is obvious that when the seat-back 3 is thrown over at the end of a journey the gear 5 engages with the gear 9 and causes the handle to swing in a semicircle on its pivots 10 until the handle is reversed in its position with regard to the stanchion. The direction of the movement of the seat-back is indicated by the arrows. While the seat-back 3 serves to hold the handle in its proper position, I have deemed it best to provide a means for more rigidly holding the handle against outward stresses, and for this purpose I have provided an arm 11, (see Figs. 3 and 4,) which is secured to the end of the pin 4 of the seat-back, so as to move with the latter. This arm is provided with two impaling-fingers 12, one of which overlaps the central arm 7 to hold the handle against outward movement. When the position of the various parts are reversed, the arm 11 swings in a circle, so that the opposite impaling-finger engages with the arm 7. The arm 11 may be used with the grab-handle independent of the gear arrangement, in which event the handles would have to be reversed by hand.

In the construction shown in Fig. 5 the grab-handle is fulcrumed to each of the arms 17, which latter are fulcrumed at the points

13 on the post, so as to move in a vertical arc. While in its broadest aspect a grab-handle with so much of my invention could be used and the handle shifted by swinging the same
 5 in the arc indicated, in order to have the same operate in conjunction with the swinging of the seat-back I have attached the central arm 17 to the end 4 of the seat-back, so that when the latter is reversed the arm 17 travels in the
 10 arc indicated until it reaches a point where it engages with the rest 14, which is preferably bolted at 15 to the stanchion.

A further modification of my broad idea of the grab-handle construction is shown in Figs.
 15 6 to 10. In this construction a pair of handles 16 are provided with the upper and lower connecting-arms 17^a, which have an oblique loop 18, adapted to travel on the pins 19. A central arm 20 is provided with a simple elongated slot 21. Instead of the cog-wheel attachment illustrated in the previous views I have provided the crank-pin 22 on the crank 23, which is provided on the pin 4 of the seat-back. By reversing the seat-back the pin 22,
 25 moving in the arc of a circle, engages with the arm 20 and causes the handles to shift on the pins 19 until the handles are in a reversed position, as shown in Fig. 8.

Figs. 9 and 10 show a modification of the
 30 last construction, in which I have provided a cog-wheel 24, attached to the pin of the seat-back in place of the arm 23 in the other views. In this construction I have provided a central arm 25 with a loop similar to the upper and
 35 lower arms and having teeth 26, which engage with the teeth on the gear-wheel. In this use the handles are shifted when the seat-back is swung over by means of the gear 24 coacting with the teeth 26 of the arm.

40 While I have described the specific means for carrying out my invention, I do not wish to be limited to the precise details of construction in the broad claims hereinafter.

Having described my invention, what I
 45 claim is—

1. A railway-car having side posts or stan-

chions, side openings between the stanchions, and a grab-handle secured to the post adapted to be moved in its relation to the said stanchions in the longitudinal direction of the car. 50

2. A railway-car having side posts or stanchions, side openings between the stanchions, the seats between the stanchions, swing-backs for said seats, a grab-handle connected with the stanchion and movable in relation thereto, 55 and means whereby the movement of said seat-back will operate said handle and change its position in relation to said stanchion.

3. A railway-car having side posts or stanchions, side openings between the stanchions, 60 the seats between the stanchions, swing-backs for said seats, a grab-handle connected with the stanchion and movable in relation thereto, and means whereby the movement of said seat-back will operate said handle, and change 65 its position in relation to said stanchion, and means operated by said seat-back for laterally holding said handle in place.

4. A railway-car having side posts or stanchions, side openings between the stanchions, 70 a car-seat between the stanchions, a swing-back for said car-seat having a pin engaging with said stanchion, an arm on the pin, a grab-handle movably secured on the stanchion, means on the arm of said seat-back pin adapted 75 to concentrically engage with and move said grab-handle.

5. A railway-car having side posts or stanchions, side openings between the stanchions, 80 the seats between the posts, swing-backs for the seats, an arm secured to the pivoting-pin of said seat-back, a grab-handle provided with arms slidably connected with said stanchions, and means whereby the arms on said seat-back will longitudinally move the said arms to alter 85 the position of said grab-handle.

Signed this 30th day of August, 1904.

SAML. M. CURWEN.

Witnesses:

DAVID ASHWORTH,
 J. V. CAMAS.