(No Model.)

2 Sheets—Sheet 1.

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CAR PLATFORM AND STEP.

No. 585,793. Patented July 6, 1897.

FIG. 1

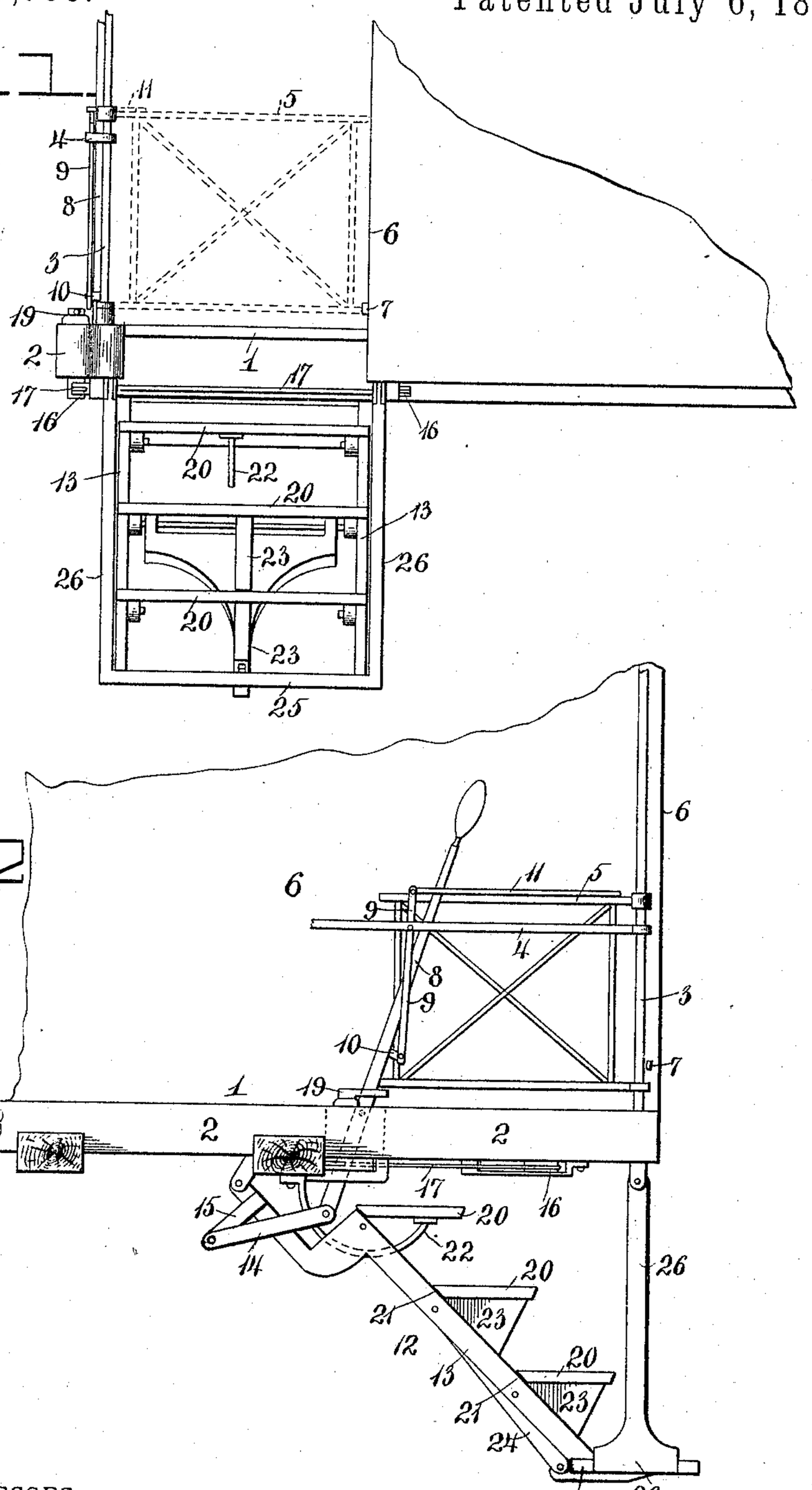

FIG. 2

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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FIG. 3.

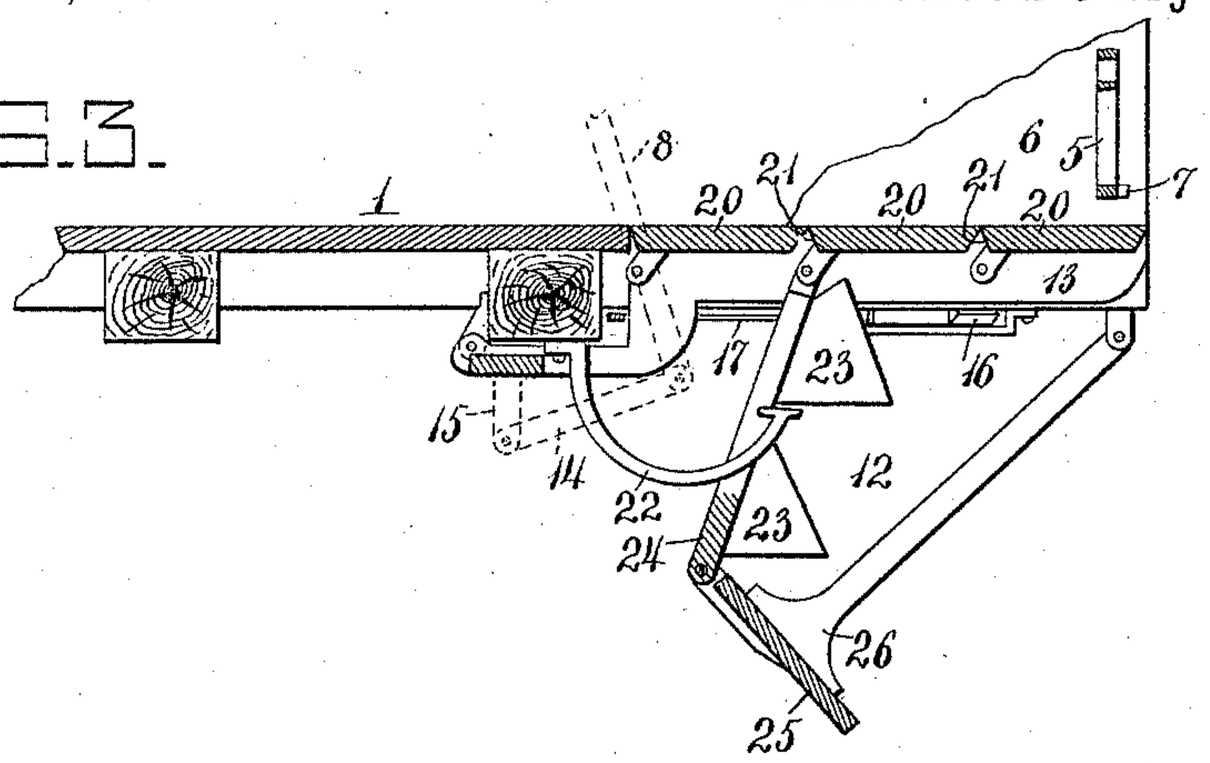


FIG. 4.

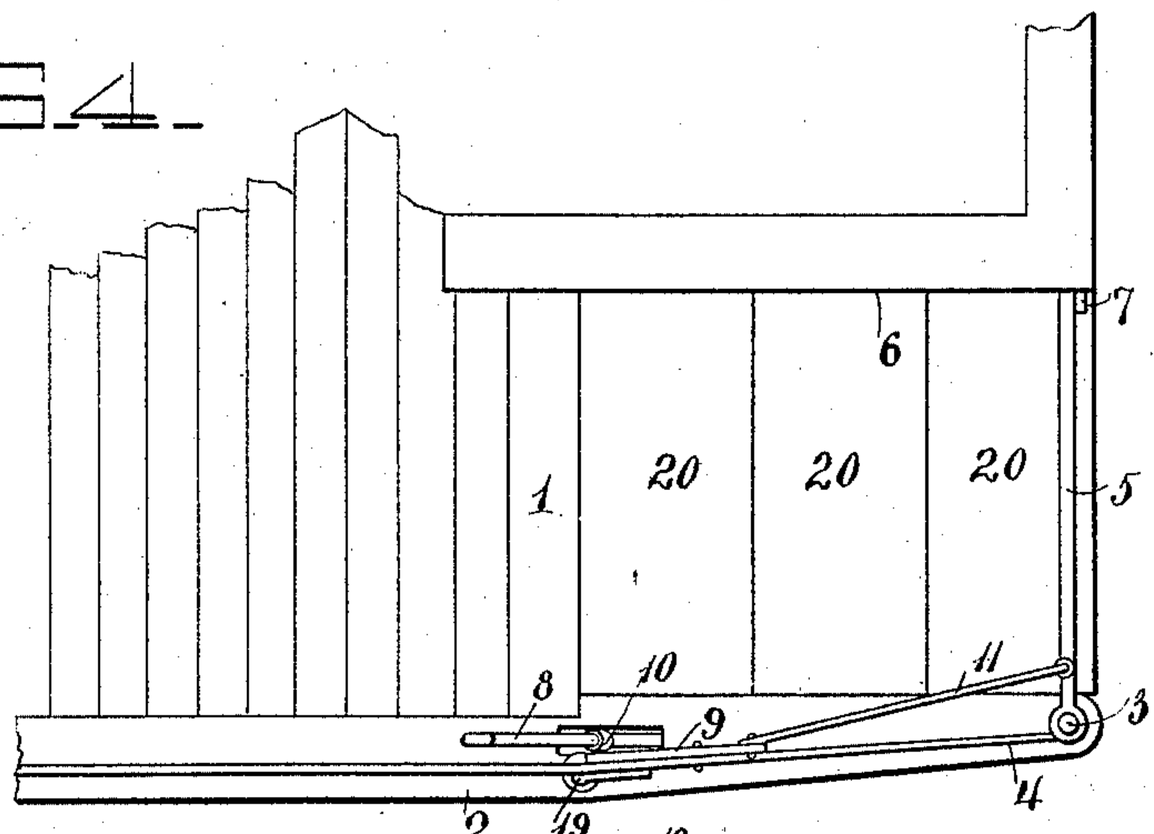
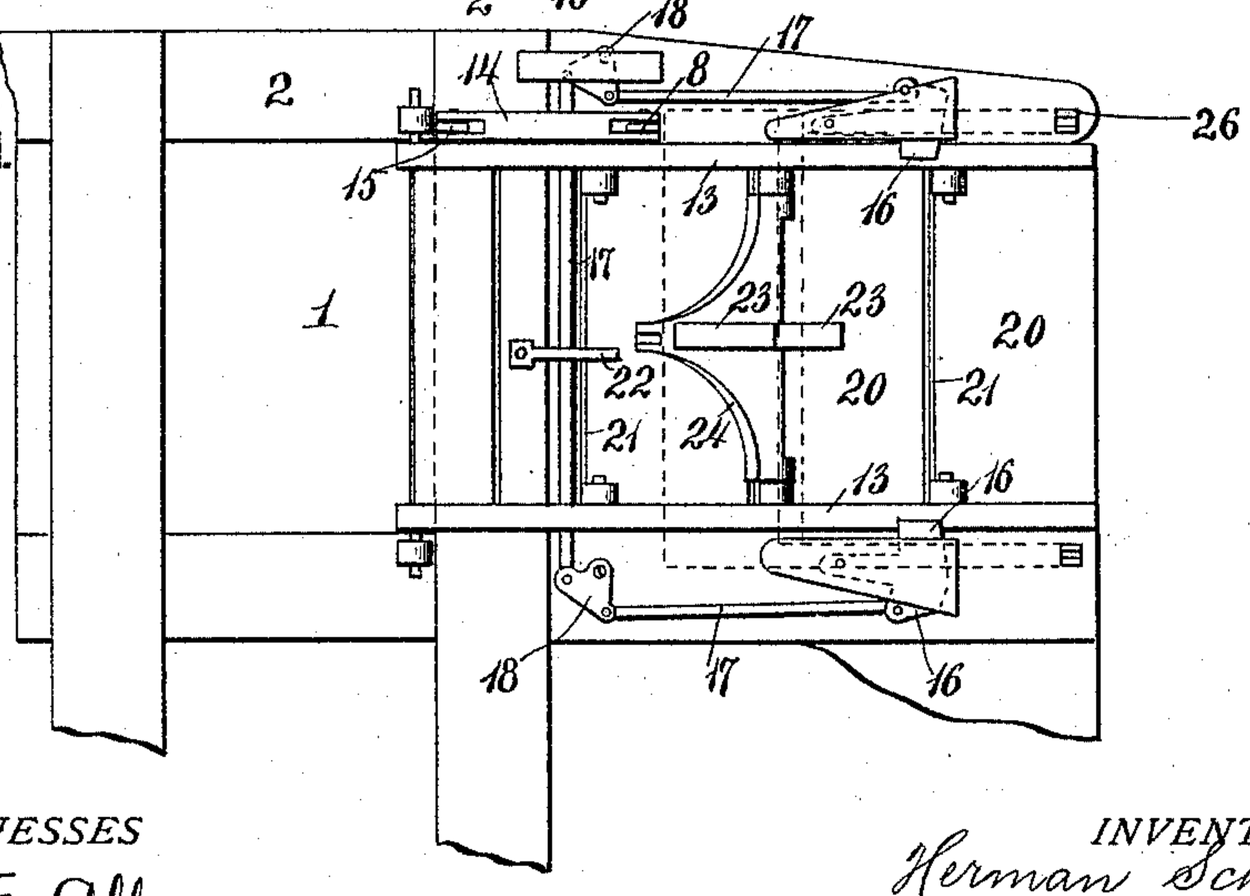


FIG. 5.



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CAR PLATFORM AND STEP.

SPECIFICATION forming part of Letters Patent No. 585,793, dated July 6, 1897.

Application filed January 9, 1897. Serial No. 618,565. (No model.)

To all whom it may concern:

Be it known that I, HERMAN SCHMIDT, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Car Platforms and Steps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to a novel construction in a car platform and steps, the object being to provide a construction whereby the steps when not in use can be elevated to fill out the space in the platform cut away above the same, and to provide means for accomplishing the above object in an efficient and durable manner.

The invention consists in the features of construction hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a car-platform provided with this improvement. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical transverse section with the steps raised. Fig. 4 is a top plan. Fig. 5 is a bottom view with certain parts omitted for convenience of illustration.

Referring now to said drawings, 1 indicates the platform of a car of ordinary construction, and is provided at its end with a cross-beam 2 in the usual manner. To the outer end of the cross-beam 2 is a post 3, and from the post 3 and extending toward the center of the platform is a railing 4. Upon the post 3 is a hinged gate 5, that is adapted to spring outwardly and between the post and the end of the body 6 of the car and against an upright stop 7 thereon. The said gate 5 is turned upon its hinges by means of a pivoted lever 8, that is pivoted upon the cross-beam 2, and it also serves to elevate and depress the steps. The connection between the gate 5 and the lever 8 consists of an upright lever 9, that is pivoted upon the railing 4 and is pivoted at its lower end to the projection 10 upon said operating-lever 8, and at its upper end is connected with the gate 5 by means of a connecting-rod 11.

In accordance with the principle involved by this invention the steps are so constructed that when thrown to one position they form a flat surface that fills in the space between the cross-beam 2 and the end of the car, so that the platform extends across the entire end of the car. These steps are three in number, although it is understood that the number can be increased or diminished, as found convenient. Upon the lower face of the platform is pivoted a frame 12. The said frame consists of two side pieces 13, joined together at their rear ends and pivoted to suitable brackets on the bottom of the platform. These side pieces extend outwardly a sufficient distance to have their outer ends about even with the outer end of the cross-beam 2 when the frame is elevated, and said frame is elevated by means of the operating-lever 8. This operating-lever projects below the beam 2 and is connected by means of a link 14 with a lug 15 upon one of the side pieces 13 of said frame.

It is seen from the foregoing description that when the lever is thrown to elevate the frame it also closes the gate against the stop 7, and vice versa. When the frame is down or in a downwardly-inclined position, the steps are formed and consequently the gate is open. The parts are so arranged that when the frame is elevated the steps move into alinement with each other to form a flat surface, and when the frame is at the upper limit of its movement these steps extending in alinement with each other are flush with the platform 1.

For holding the steps in an elevated position I employ two latches 16 on opposite sides of the opening in the platform of the car. These latches are pivoted to swing into and out of the path of the side pieces of the frame and are connected by means of rods 17 and bell-crank levers 18 with a foot-piece 19, which is mounted upon a short shaft connected with one of said bell-cranks. In this way it is seen that the latches can be moved into or out of the path of the side pieces of the frame to hold said frame elevated or to allow it to drop.

I will now proceed to describe the construction of the steps and the devices for operating the same.

The steps 20 are pivoted between the side

pieces 13 and are provided with beveled edges 21, that come in contact with the upper face of the side pieces when the steps are in a horizontal position, and thus act as stops to limit the movement of said steps. When the frame is elevated, the said steps turn upon their pivots by gravity and fall flat upon the side pieces, so their upper faces are in alinement. For moving said steps, however, upon the pivots I employ projections that are situated in the path of the steps that strike them and turn them upon the pivots. The upper step is moved by a hanger 22, that is fastened upon the platform 1 and projects downwardly and outwardly. This hanger 22 is situated so that when the stop 21 upon the upper step 20 is in engagement with the upper face of the side pieces the said upper step is resting flat upon the hanger. The lower steps are moved into the correct position, with their stops 21 against the side pieces, by means of the blocks 23, carried by a pivoted arm 24. This pivoted arm 24 is fastened to the side pieces 13 and to the lower step 25. The said lower step 25 is suspended from two rods 26, that are pivoted at their upper ends to the outer end of the cross-beam 2 and to the forward end portion of the car. The said lower step is firmly secured to the rods 26 in the manner shown.

In use when the steps are elevated they stand in the position shown in Figs. 3 and 4 of the drawings—that is to say, with the gate closed and with the frame elevated and held by the catches 16. The rods 26 and lower step 25 are also thrown inwardly, as shown. To let down the steps and open the gate, the operator first moves the foot-piece 19 to retract the catches, and then by moving the operating-lever 8 outwardly the gate 5 is swung upon its hinge, while at the same time the frame 12 is dropped, while the arms 26 swing downwardly and outwardly and thus draw the blocks 23 into the path of the two lower steps of the frame. As the parts move to this position the upper step 20 comes in contact with the hanger 22 and the two lower steps 20 come in contact with the blocks 23, which bring these steps to a horizontal position with their stops in engagement with the side pieces. When the parts arrive at this position, the lower step 25 is also in horizontal position, and the ends of the side pieces 13 are arranged to come in contact with the upper face of the lower step and thus limit the downward movement of the different parts.

It is seen from the foregoing description that I provide a simple and effective means for operating the steps in connection with a device of this kind, and, furthermore, provide a platform that is furnished with steps, but which when not in use can be so utilized that the entire end of the car is furnished with a platform, as shown and described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a car-platform, of a pivoted frame carrying a plurality of pivoted steps, a gate upon said platform swinging in a plane different from that in which said frame and steps swing, devices for swinging said frame upon its pivot and for moving said steps upon their pivots and for opening and closing said gate.

2. The combination with a car-platform, of a pivoted frame, devices for elevating and depressing said frame, a plurality of pivoted steps carried by said frame, devices for turning said steps upon their pivots, and a lower step carried by pivoted rods and situated in the path of the lower ends of the sides of said frame.

3. In a device of the kind specified, a pivoted frame provided with a plurality of pivoted steps, devices for elevating and depressing said frame, and a rigid hanger or block and a plurality of movable hangers or blocks situated in the path of said steps for moving the same upon their pivots and into a horizontal position.

4. In a device of the character described a pivoted frame provided with a plurality of pivoted steps, said steps being provided with beveled edges forming stops to engage the side pieces of said frame, and devices for moving said frame and said steps upon their pivots.

5. In a device of the kind specified, a pivoted frame provided with pivoted steps, a depending pivoted frame having an arm pivoted to said first-mentioned frame, said frame being provided with blocks situated in the path of said steps.

6. In a device of the character specified, a pivoted frame provided with a plurality of pivoted steps, depending pivoted rods provided at their lower ends with the lower step, and an arm pivoted to said frame and to said lower step and provided with blocks situated in the path of said pivoted steps.

7. In a device of the character specified, a pivoted frame having pivoted steps, an operating-lever connected with said frame for elevating and depressing the same, and a pivoted gate connected with said lever by devices to cause said gate to turn upon its pivot as said lever is reciprocated.

8. The combination with a car-platform having a pivoted frame carrying pivoted steps and devices for operating the same, of catches pivoted on opposite sides of the opening in said platform and in the path of said pieces of said frame, said catches being connected with each other and with a common operating foot-piece.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

HERMAN SCHMIDT.

Witnesses:
R. J. SLANDORFF,
H. C. PARRISH.