

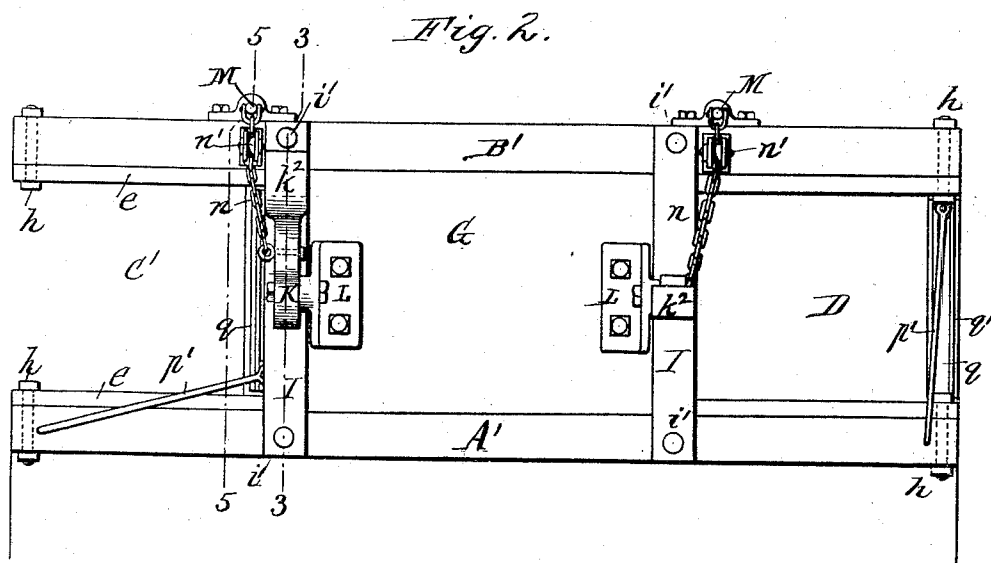
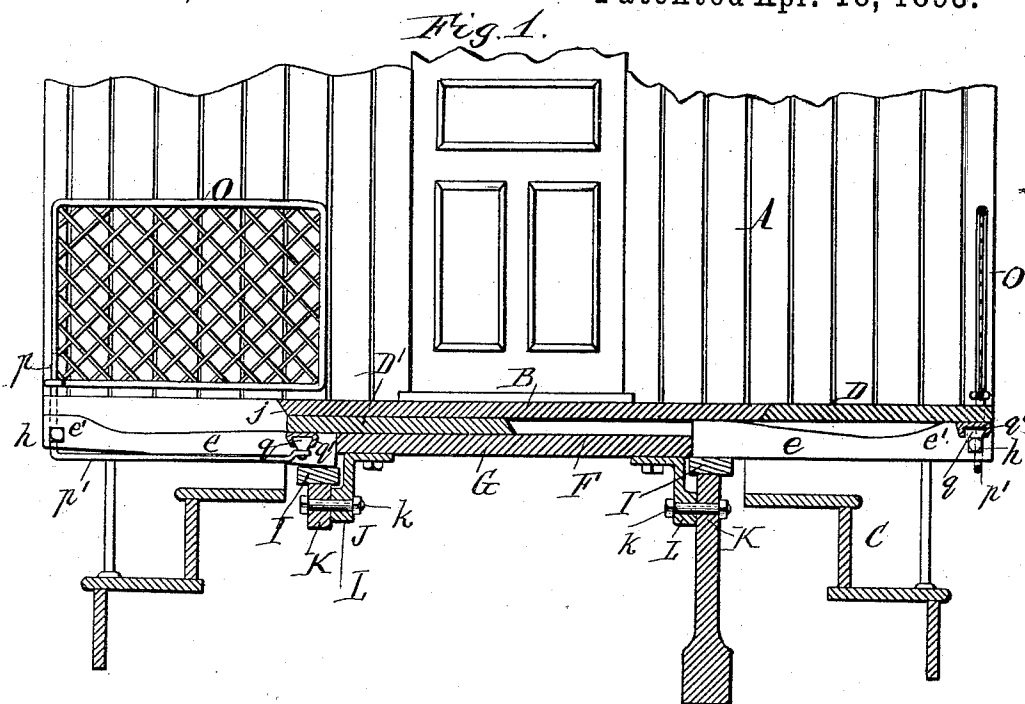
(No Model.)

2 Sheets—Sheet 1.

H. D. ARKLAND.
RAILWAY CAR PLATFORM.

No. 495,652.

Patented Apr. 18, 1893.



Witnesses:

Emil Neuhart.
Chas. F. Burkhardt.

H. D. Arkland Inventor.
By Wilhelm Hornum.
Attorneys.

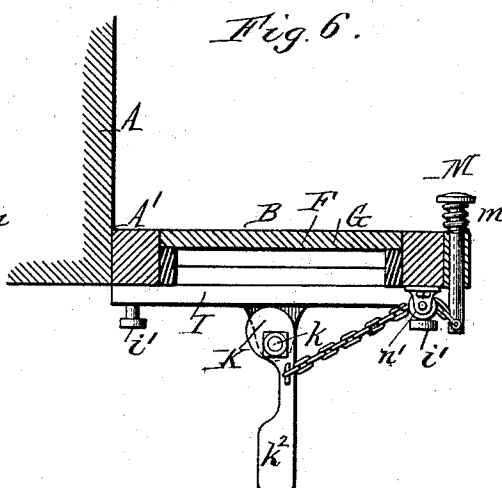
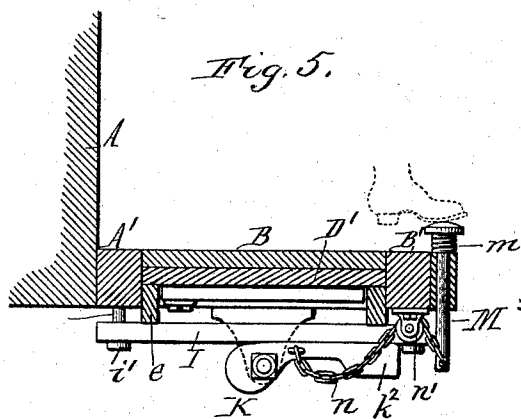
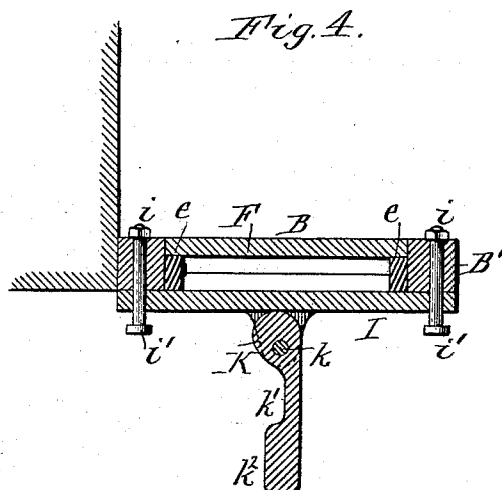
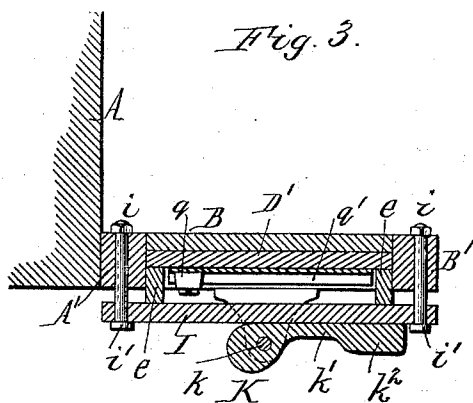
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2 Sheets—Sheet 2.

H. D. ARKLAND.
RAILWAY CAR PLATFORM.

No. 495,652.

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Witnesses:

Emil Neuhart.
Chas. F. Burkhardt.

H. D. Arkland Inventor.

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UNITED STATES PATENT OFFICE.

HENRY D. ARKLAND, OF BUFFALO, NEW YORK, ASSIGNOR OF SIX-ELEVENTHS
TO DANIEL D. REXFORD, EZRA H. ARKLAND, GEORGE H. SHUR, AND
CHARLES J. DELL, OF SAME PLACE.

RAILWAY-CAR PLATFORM.

SPECIFICATION forming part of Letters Patent No. 495,652, dated April 18, 1893.

Application filed January 28, 1893. Serial No. 460,062. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. ARKLAND, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Railway-Car Platforms, of which the following is a specification.

My invention relates generally to passenger cars, but more particularly to those known as "observation cars" in which the platforms are provided with wings or extensions adapted to bridge the space above the car steps and form continuations of the platform, so as to admit passengers to walk to the edges of the platform for obtaining a better view of the scenery along the line of the railway.

One object of my invention is to so arrange these platform wings that, when they are not in use, they are out of the way, so as not to interfere with the free ingress and egress of the passengers. The invention has the further objects to facilitate the operation of the wings, and to combine with the same, gates or guards for closing the sides of the platform when the car is in motion.

In the accompanying drawings consisting of two sheets:—Figure 1 is a fragmentary sectional end view of a railway car provided with my improvements, showing the wing on the left hand side of the platform retracted into its pocket, and the wing on the right hand side extended to bridge the opening above the car step. Fig. 2 is a bottom plan view of the car platform, showing corresponding positions of the wings. Fig. 3 is a longitudinal section of the platform in line 3—3, Fig. 2, looking toward the right, and showing the position of the lifting cam when the wing is retracted. Fig. 4 is a similar section in the same line, showing the position of the cam when the wing is extended. Fig. 5 is a longitudinal section of the platform in line 5—5, Fig. 2 looking toward the right and showing the wing retracted. Fig. 6 is a similar section in the same line, showing the wing extended.

Like letters of reference refer to like parts in the several figures.

A represents the end wall of the car body, A' the end sill of the car; B the stationary platform, and B' the end sill of the platform.

C represents the car steps, and C' the recesses or openings in the platform above the car steps.

D D' represent the lateral wings or platform extensions which are adapted to close the space above the car steps, when the car is in motion. These wings are arranged to slide crosswise of the platform upon transverse ways or supporting bars *e*; and when in their retracted position in which they clear the space above the car steps, the wings are inclosed in a horizontal pocket F arranged on the under side of the main platform. This pocket is open at both ends and its upper wall is formed by the under side of the platform and its lower wall by a horizontal plate G, which is separated from the under side of the platform by a space slightly wider than the thickness of the platform wings, so as to permit the wing to slide freely in the pocket. The supporting bars *e* of each wing are pivoted at their outer ends to the end sills A' B' of the car body and the platform by horizontal bolts *h*, while the inner portions of these bars are capable of swinging vertically and are supported upon a longitudinal lifting bar or frame I, which is guided on vertical pins or rods *i*, secured to the under side of the platform, adjacent to the open ends of the pocket F. These pins are provided at their lower ends with heads *i'*, which limit the downward movement of the vertically movable lifting frame and upon which the same rests when the wing is retracted into its pocket, as shown in Figs. 1, 3 and 5. The inner portions of the faces of the supporting bars *e* are level with the bottom of the wing pocket F, while their outer portions *e'* are raised or inclined upward sufficiently to elevate the outer portions of the wings to the level of the platform floor, when they are extended as shown in Fig. 1.

J is an automatic lifting device whereby the rear portions of each platform wing is raised to the level of the stationary main car

platform, as soon as the wing is drawn outward sufficiently to clear the lateral edge *j* of the platform-floor.

In the construction shown in the drawings the lifting device consists of a cam or eccentric *K* arranged underneath the lifting bar *I* of the wing and bearing against the under side of said bar, so that when the widest portion of the cam bears against said bar, the wing is raised to the level of the platform floor, while when the narrow portion of the cam bears against said bar, the rear end of the wing is free to drop sufficiently to enter the pocket *F*. Each of the cams *K* is pivoted by a horizontal bolt *k* to a bracket *L* secured to the under side of the pocket *F*, as shown in Figs. 1 and 2, and is provided with an arm *k'* having at its outer end a weight *k²* which latter tends to swing the cam arm into a pendent position. The widest portion of the cam is arranged diametrically opposite the point at which the weighted arm joins the cam so that when the arm hangs down, the lifting bar *I* and the rear portion of the wing are raised and supported by the cam.

M is a vertically movable pedal or push rod guided in a bearing on the platform and extending below the latter; and *m* is a spring whereby the push rod is held in an elevated position. This spring surrounds the rod and rests with its lower end upon the platform and bears with its upper end against a head or foot plate at the upper end of the rod.

n is a chain or other connection attached at one end to the lower end of the push rod, and at its opposite end to the shifting arm of the cam *K*. This chain passes over a guide roller *n'* arranged on the under side of the platform. Upon depressing the push rod, the weighted arm of the cam is swung upward into the horizontal position shown in Figs. 3 and 4, in which position the cam permits the rear end of the supporting bar of the wing to descend below the pocket and the rear portion of the wing to descend to the level of the pocket *F*, ready to enter the latter. When in its retracted position the wing does not recede wholly into the pocket, but its outer portion extends a short distance beyond the open end of the pocket, as shown in the left hand portion of Fig. 1. This projecting portion of the wing limits the further upward movement of the supporting bar of the wing and of the lifting bar *I*, and thereby prevents the weighted arm of the cam from descending. Upon withdrawing the wing sufficiently to allow its rear end to clear the pocket *F*, the weighted arm of the cam, being released, descends to its pendent position and turns the cam, thereby automatically lifting the bar *I* and raising the rear end of the wing to the level of the platform floor.

The wings may be extended and retracted by any suitable means but they are preferably operated by the movement of guards or gates *O*, which close the sides of the platform, when the car is in motion. Each of these

gates is attached at its inner edge to an upright rock shaft *p* arranged adjacent to the end of the car body and journaled in an opening or bearing in the platform. This shaft is provided at its lower end below the car platform with a horizontal rock arm *p'* carrying at its inner free end a block or slide *q* which is guided in a straight groove or way *q'* arranged transversely in the under side of the platform wing, at or near the outer end of the latter, as shown in Figs. 1 and 2. Upon turning this rock shaft by means of the gate, the slide is caused to move in the way of the wing and thereby shifts the wing inward, to clear the opening over the car steps, or outward to bridge said opening according as the gate is opened or closed. The slide *q* and its way are made of dove-tail cross section, so as to retain the slide in the way. The slide is pivoted to the free end of the rock arm so as to give the latter the necessary play on the slide. When the gates are swung into their open position against the end of the car body, the platform wings connected therewith are retracted allowing passengers to enter or leave the car. When it is desired to extend the platform wings for bridging the step openings, the gates are closed, whereby the wings are withdrawn from their pockets. By this outward movement of the wings their front portions are elevated to the level of the platform floor, and as soon as their inner ends clear the edges *j* of the floor their rear portions are automatically raised to the level of said floor, forming a continuous platform extending from side to side of the car and permitting passengers to walk to the extreme sides of the car and obtain a good view of the surrounding scenery. The platform wings are readily retracted by depressing the pedals *M*, and opening the gates as before described. The inner edges of the platform wings and the outer edges *j* of the platform floor are preferably reversely beveled, as shown, to form a close joint, between these parts, when the wings are extended.

I claim as my invention—

1. The combination with the stationary car platform, of a laterally sliding wing or extension, adapted to bridge the space above the car steps and form a continuation of the stationary platform, substantially as set forth.

2. The combination with the stationary car platform and a pocket arranged underneath the same, of a laterally sliding wing or extension adapted to recede into said pocket to clear the space above the car steps, and to be withdrawn from said pocket, so as to bridge the space above the steps, substantially as set forth.

3. The combination with the stationary car platform, of a laterally movable wing or extension adapted to slide inward under the platform or outward to bridge the space above the car steps, a guide or support whereby the outer portion of the wing is raised to the level of the car platform, and an automatic lifting

device whereby the rear portion of the wing is correspondingly elevated, substantially as set forth.

4. The combination with the stationary car platform, of a laterally sliding wing or extension adapted to recede under the platform, raised supports whereby the front portion of the wing is raised when extended, and a vertically movable lifting bar or frame for raising the rear portion of said wing, and a device whereby said frame is elevated when the wing clears the platform, substantially as set forth.

5. The combination with the stationary car platform, of a vertically swinging frame pivoted at its outer end to the platform and having guide bars provided with depressed inner portions and raised outer portions, a laterally sliding wing or extension adapted to recede under the platform, and supported on said guide bars, and a cam or eccentric whereby the inner portion of said vertically swinging frame is raised for elevating the rear portion of the wing when extended, substantially as set forth.

6. The combination with the stationary car platform, of a vertically swinging frame pivoted at its outer end to the platform and having guide bars provided with depressed inner portions and raised outer portions, a laterally sliding wing or extension adapted to recede under the platform, and supported on said guide bars, a bar bearing against the inner portion of said vertically swinging frame, and a lifting cam or eccentric bearing against said bar and having a weighted arm for automatically turning it, substantially as set forth.

7. The combination with the stationary car platform, of a laterally sliding wing or extension adapted to recede under the platform, a vertically movable frame for raising said wing when extended a lifting cam or eccentric operating against said frame and having an actuating arm and a connection attached to said

arm and extending above the platform whereby the cam is turned, substantially as set forth. 45

8. The combination with the stationary car platform, of a laterally sliding wing or extension adapted to recede under the platform, a vertically movable frame for raising said wing when extended, a lifting cam or eccentric operating against said frame and having an actuating arm, a pedal or push rod arranged above the platform, and a connection extending from said push rod to the arm of the cam, substantially as set forth. 55

9. The combination with the stationary car platform, of a laterally extending wing or extension forming a continuation of the platform and a movable gate adapted to close the side of the platform and connected with said sliding extension, whereby the latter is extended and retracted by the movements of the gate, substantially as set forth. 60

10. The combination with the stationary car platform, of a laterally sliding wing or extension forming a continuation of the platform, a rock shaft journaled on a platform and having a rock arm carrying a slide, and a groove or way arranged on said wing in which said slide is guided, substantially as set forth. 70

11. The combination with the stationary car platform, of a laterally sliding wing or extension forming a continuation of the platform, a horizontally swinging gate having a rock shaft journaled on the platform, a rock arm mounted on said shaft underneath the platform a way arranged crosswise on said wing, and a slide attached to said rock arm and guided in said way, substantially as set forth. 75

Witness my hand this 21st day of January, 1893. 80

HENRY D. ARKLAND.

Witnesses:

F. C. GEYER,

E. A. BOTTOMLEY.