

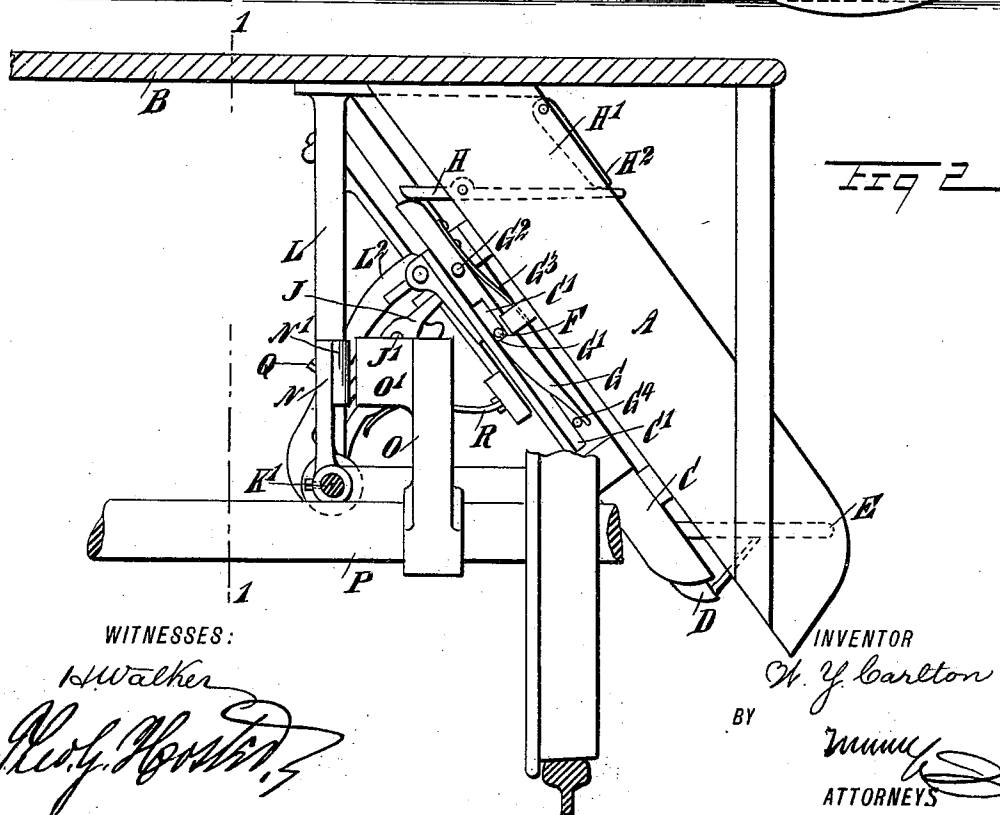
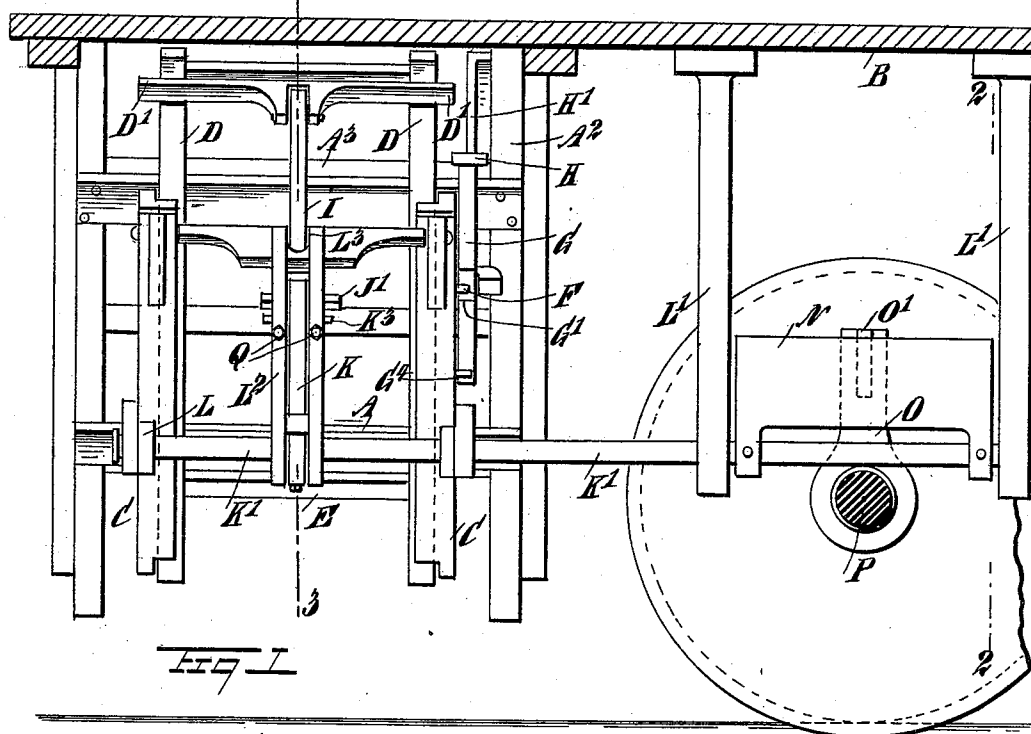
(No Model.)

2 Sheets—Sheet 1.

W. Y. CARLTON.
EXTENSION STEP FOR RAILROAD CARS.

No. 568,601.

Patented Sept. 29, 1896.



WITNESSES:

H. Walker
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BY

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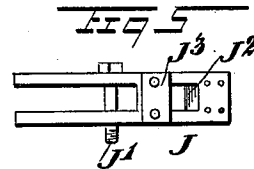
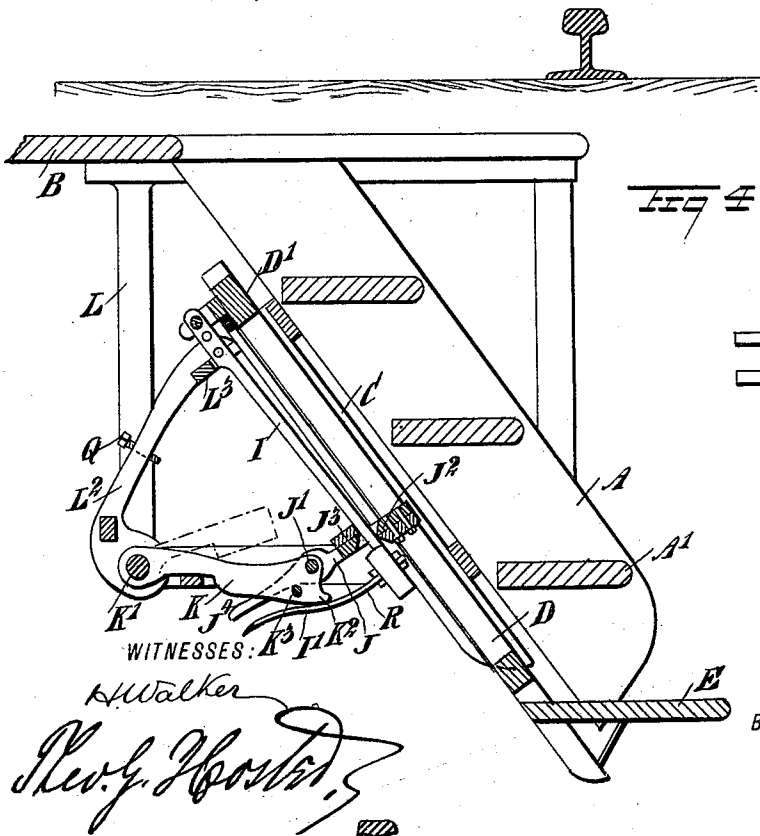
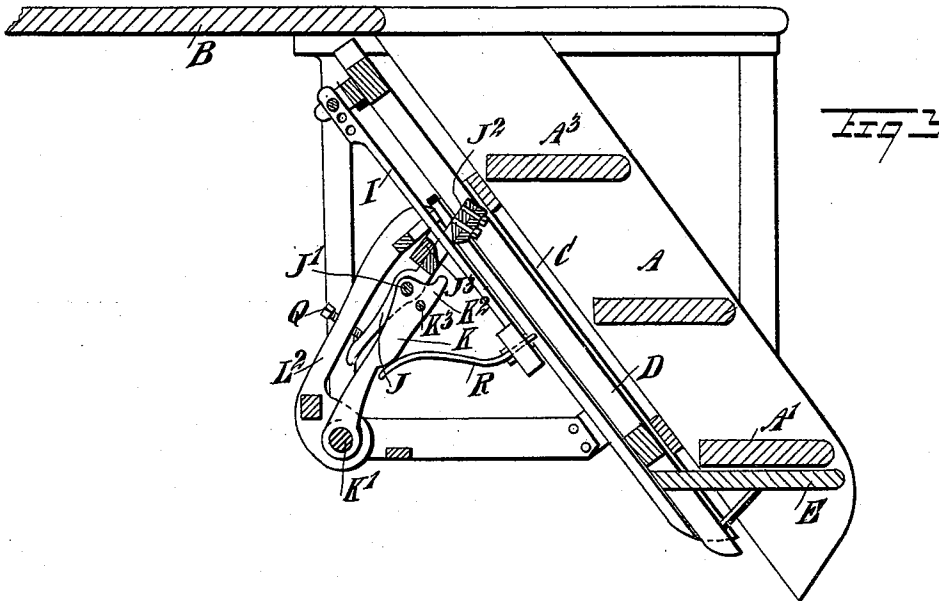
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WITNESSES: K1 K2 K3

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UNITED STATES PATENT OFFICE.

WALKER Y. CARLTON, OF CENTRALIA, VIRGINIA.

EXTENSION-STEP FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 568,601, dated September 29, 1896.

Application filed January 14, 1896. Serial No. 575,427. (No model.)

To all whom it may concern:

Be it known that I, WALKER YEATMAN CARLTON, of Centralia, in the county of Chesterfield and State of Virginia, have invented
5 a new and Improved Extension-Step for Railroad-Cars, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved railroad-car extension-
10 step which is simple and durable in construction, readily put in position for service when needed, and automatically folded when the train starts.

The invention consists principally of an
15 extension-step, held on a frame mounted to slide on the rear of the ordinary car-step, and a tripping device for releasing the step from its normal position and permitting the step
20 to slide by its own gravity into a lowermost service position.

The invention further consists of a lifting device connected with the step and controlled from the car-axle.

The invention also consists of certain parts
25 and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification,
30 in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a rear elevation of the improvement as applied and with the car in section
35 on the line 1 1 of Fig. 2. Fig. 2 is a cross-section of the same on the line 2 2 of Fig. 1. Fig. 3 is a similar view of the same on the line 3 3 of Fig. 1. Fig. 4 is a like view of the same with the step extended, and Fig. 5 is a
40 plan view of the gripping-lever.

On the rear of the ordinary step A of the car B is secured a guideway C, in which is fitted to slide a frame D, carrying at its lower end an extension-step E, normally resting
45 on the under side of the lowermost tread A' of the step A. On one side of the frame D is arranged a pin F, projecting through a slot C' in the guideway C to normally rest on a shoulder G', formed on the tripping-lever G, fulcrumed at G² on the guideway C
50 and pressed on by a spring G³, so as to hold the tripping-lever in proper position for the pin F to rest on the shoulder G'. (See Fig.

2.) A stop G⁴, held on the guideway C, limits the swinging motion of the lever G in one direction, as will be readily understood by
55 reference to Fig. 2.

The upper end of the lever G is adapted to be engaged by the rear end of a transversely-extending lever H, fulcrumed on one of the stringers A² for the car-step A, said lever H
60 being inclosed in a suitable housing H', arranged on the inside of the stringer on the top of the uppermost tread A². The front end of the housing H' is provided with a hinged door H², and the outer end of said le-
65 ver H projects slightly beyond the stringer A² to permit the operator to take hold of said lever H and lift the latter, so as to cause the end thereof to press the tripping-lever G. In doing so the lever G is caused to swing
70 upward to move the shoulder G' from under the pin F, so that the frame D is free to slide downward in the guideway C by its own gravity. The downward sliding motion of the frame D is limited by projections D', resting
75 on the upper ends of the guideway C.

On the upper end of the frame D is pivoted an arm I, adapted to be engaged by a gripping-lever J, fulcrumed at J' on an arm K,
80 secured on a longitudinally-extending shaft K', journaled in suitable bearings arranged on hangers L L', secured on the frame D and the under side of the car B, as will be readily understood by reference to Fig. 1. On the shaft K' is secured an arm N, formed with a
85 weighted face N', adapted to be engaged by a projection O', formed on the free end of an arm O, secured to the axle P of the car B.

Now it will be seen that when the step E is in a lowermost or extended position, as shown
90 in Fig. 4, and the car starts from a station after the passengers have boarded the car, then the revolving of the axle P will cause the arm O to strike with its projection O' the face N' of the arm N, so that the latter is
95 caused to swing upward, and consequently a turning motion is given to the shaft K'. The said shaft causes an upward swinging motion of the arm K and the gripping-lever J, whereby the latter pushes on the arm I in an upward
100 direction, so that the frame D, carrying the extension-step E, is caused to slide upward, so as to bring the step E under the lowermost tread A'.

When the frame D slides upward, then the free end of the tripping-lever G is engaged by the pin F, which latter finally snaps over the shoulder G', so that the frame D is locked in an uppermost position, and remains in this position until the lever H is actuated by the brakeman, conductor, or other person, as previously explained.

The gripping-lever J is provided with two gripping-jaws J² and J³, so that on the upward swinging movement of the lever J said jaws normally engage the arm I, but upon a downward movement of the arm K said jaws simply slide over the arm J without gripping the same.

In order to release the jaws J² and J³ from the arm I at the time the lever J and arm K swing into an uppermost position, I provide set-screws Q, adapted to engage the tail J⁴ of the gripping-lever J to push the latter into a release position relatively to the arm I. The set-screws Q are held in a bracket L², forming a bearing for the shaft K' and secured at its upper end to a guideway C. The cross-bar L³ of this bracket L² is notched to form a guide for the arm I, as plainly indicated in the drawings. A spring R is held on the lower free end of the arm I to engage a projection K³, held on the free end of the arm K, to insure a proper guiding of the arm I at the time the arm K swings upward by the action of the gripping-lever J.

It will be seen that this device is very simple and durable in construction, can be readily put into service by the operator simply manipulating the lever H, as previously explained, and when the car is starting from a station then the extension-step is returned to its normal position by the action of the mechanism controlled from the axle P.

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

1. A device of the class described, comprising a frame mounted to slide under the ordinary car-step, and provided with an extension-step, a lifting device connected with said frame and controlled from the car-axle, a locking and tripping lever adapted to engage said frame and normally hold the latter

in an uppermost position, and means for imparting a swinging motion to said tripping-lever, to release said frame and extension-step, as set forth.

2. A device of the class described, comprising a slidable frame carrying an extension-step, an arm pivotally connected with said frame, a gripping-lever adapted to engage said arm, a shaft adapted to receive a turning motion from the car-axle, and an arm held on said shaft and carrying said gripping-lever, substantially as shown and described.

3. A device of the class described, comprising a slidable frame carrying an extension-step, an arm pivotally connected with said frame, a gripping-lever adapted to engage said arm, a shaft adapted to receive a turning motion from the car-axle, an arm held on said shaft and carrying said gripping-lever, and a spring held on the free end of said frame-arm and adapted to engage the extension on said shaft-arm, substantially as shown and described.

4. A device of the class described comprising a slidable frame carrying an extension-step, an arm pivotally connected with said frame, a gripping-lever adapted to engage said arm, a shaft adapted to receive a turning motion from the car-axle, an arm held on said shaft and carrying said gripping-lever, and set-screws adapted to engage the tail of said gripping-lever and release the jaws of the latter from said arm, substantially as shown and described.

5. The combination of a car having steps, a frame mounted to move under the steps and provided with an extension-step, a pivoted locking-lever having means to engage the frame and hold the same in a raised position, an operating-lever pivoted adjacent to said locking-lever, said operating-lever having engagement with the locking-lever and being adapted when swung pivotally, to move the same and release said frame, substantially as set forth.

WALKER Y. CARLTON.

Witnesses:

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S. J. CHEATHAM.