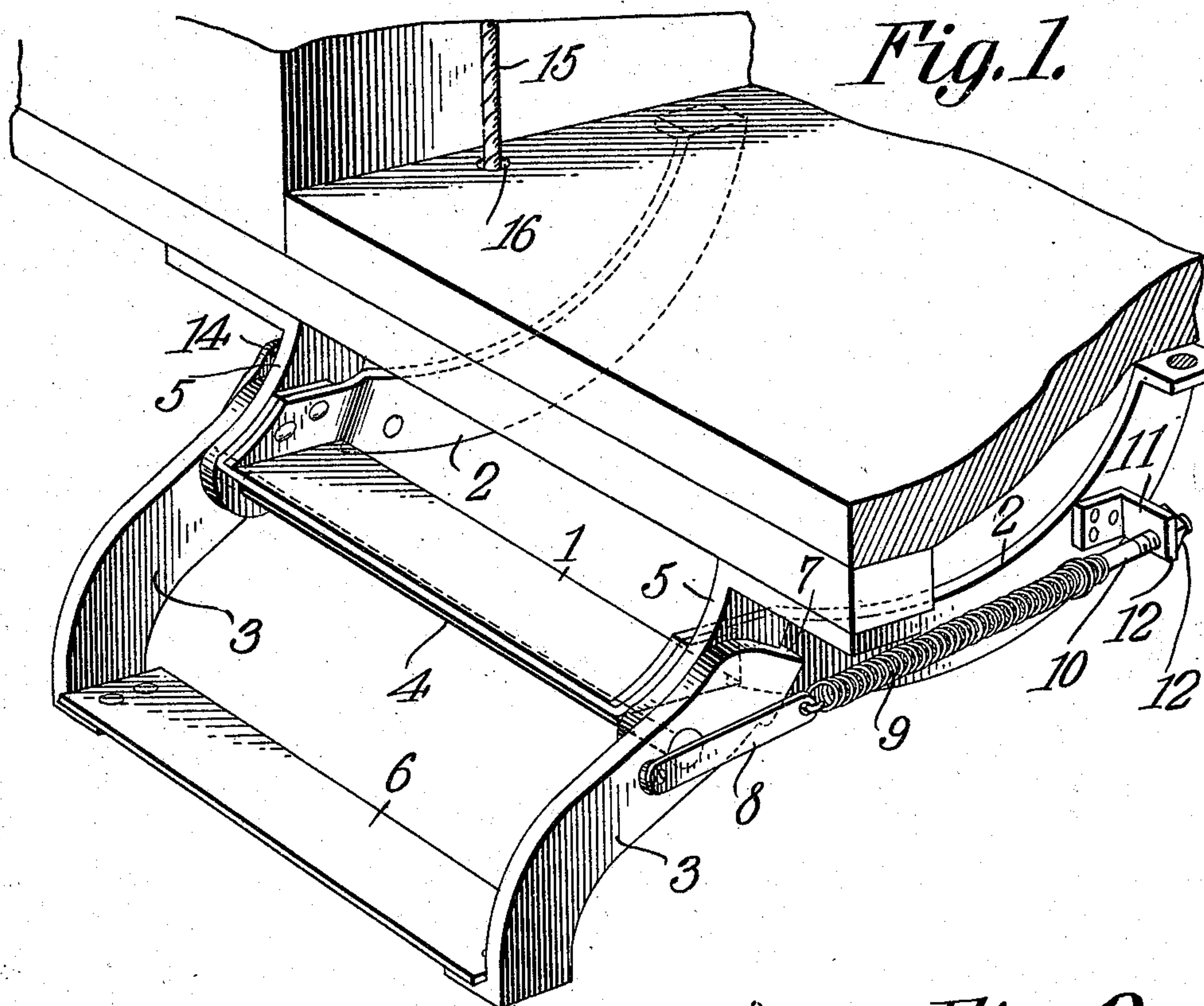


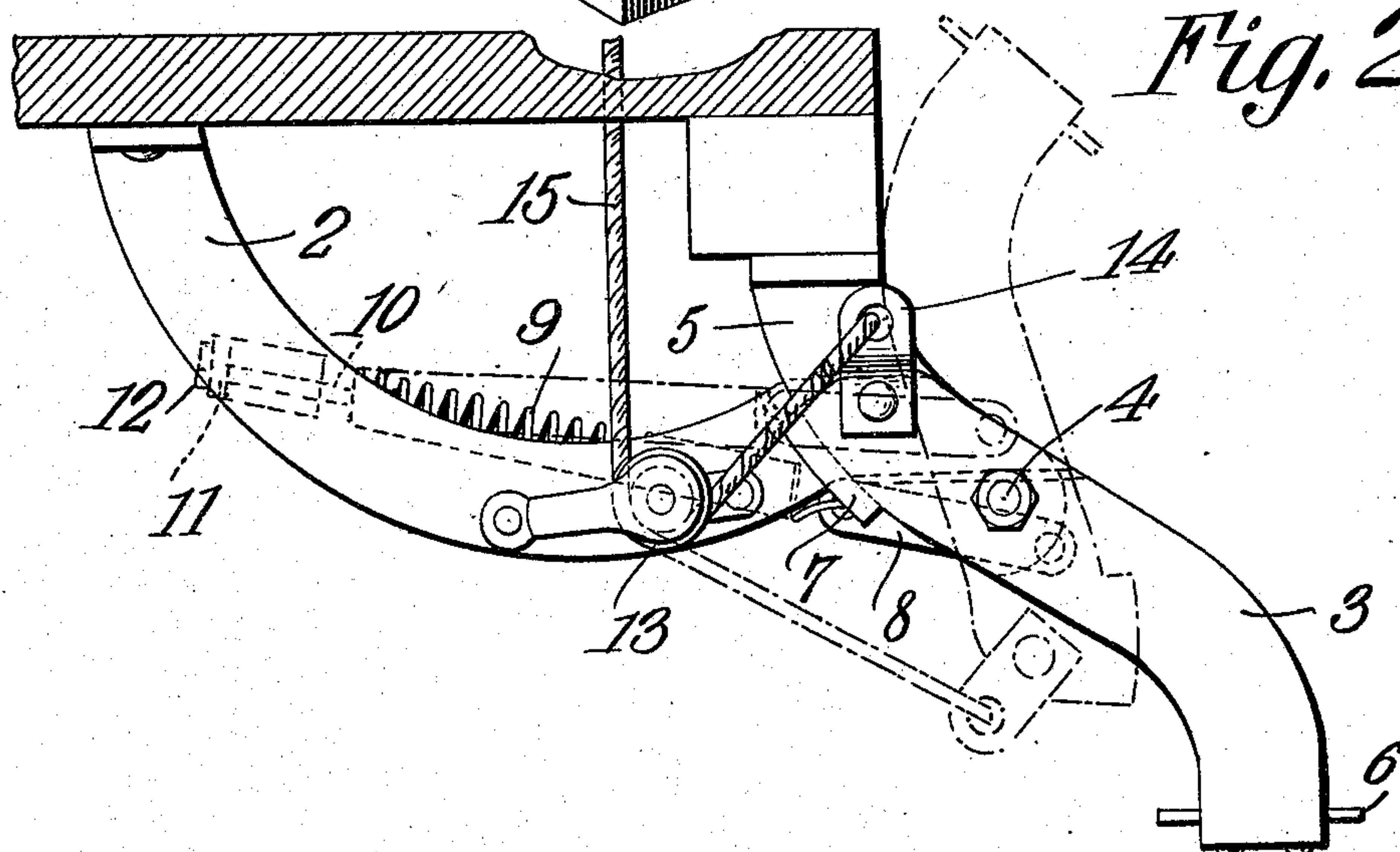
No. 840,619.

PATENTED JAN. 8, 1907.

G. HAGBERG.  
PIVOTED CAR STEP.  
APPLICATION FILED SEPT. 26, 1906.



*Fig. 1.*



*Fig. 2.*

WITNESSES:

*E. J. Stewart*  
*C. Broadway*

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ATTORNEYS



# UNITED STATES PATENT OFFICE

GUST HAGBERG, OF WARREN, PENNSYLVANIA.

## PIVOTED CAR-STEP.

No. 840,619.

Specification of Letters Patent.

Patented Jan. 8, 1907.

Application filed September 26, 1906. Serial No. 336,307.

*To all whom it may concern:*

Be it known that I, GUST HAGBERG, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented a new and useful Pivoted Car-Step, of which the following is a specification.

This invention has relation to pivoted car-steps; and it consists in the novel construction and arrangement of its parts, as hereinafter shown and described.

The object of the invention is to provide a pivoted step for cars and the like which may be swung up in elevated position while the car is in transit, thus preventing any one from boarding or alighting from the car while the same is in motion. At stations when the car is at rest the step may be swung down to permit of egress and ingress of passengers.

The invention consists, primarily, of a step which is pivotally attached to a relatively fixed step or set of stairs. The fixed step is provided with rearwardly-extending braces, which extend under the body or platform of the car, and a spring connects at one end with one of the said braces and at its other end with the said pivoted step and is adapted to hold the same in either its elevated or lowered position. The other brace is provided with a pulley, the center of which is substantially at the same horizontal level as the center of the pivot of the pivoted step. A flexible member is attached to the inner end of the pivoted step and passes around said pulley and passes up through a perforation in the floor or platform of the car.

In the accompanying drawings, Figure 1 is a perspective view of the step attached to the platform of a car. Fig. 2 is an edge elevation of the step.

The step 1 is provided with the rearwardly-extending braces 2, which are attached at their inner ends to the bottom of the body of the car or the under side of the platform thereof, as indicated in Fig. 1. The side pieces 3 3 are pivotally attached, by means of the bar 4, to the side pieces 5 5 of the step 1. The tread 6 connects the outer ends of the side pieces 3 3 together. The tread 6 and the side pieces 3 3 constitute the pivoted step, while the step 1 and its side pieces 5 5 constitute the relatively fixed step. The upper ends of the side pieces 3 3 are provided with the lugs 7 7, which are adapted to engage the rear edges of the side pieces 5 5 and

limit the downward swing of the said side pieces 3 3. The link 8 is pivoted at one end to one of the side pieces 3 at a point between the pivot-bar 4 and the outer or lower end of the said side piece 3. The coil-spring 9 is attached at one end of said link. The other end of the said coil-spring 9 is attached to the threaded bolt 10, which in turn passes through a perforation in the lug 11, fixed to one of the braces 2, and enters the threaded nut 12, which bears against the rear side of the said lug 11. By turning the nut 12 the tension of the coil-spring 9 may be adjusted and regulated. The pulley 13 is journaled upon the other brace 2, and the lug 14 is attached to the upper or inner end of the side piece 3 in front of the said pulley 13. The flexible element 15 passes down through a perforation 16, provided in the platform or bottom of the car and passes under the pulley 13 and is attached to the lug 14.

When the step is in the position as shown in the drawings, the lug 14 is in elevated position with relation to the pivot-rod 4 and the pulley 13 consequently. If the flexible element 15 is given a sudden upward pull the lug 14 is drawn down and the outer ends of the side pieces 3 3 are swung up. At the same time the said lug 14 is carried below the pivot-rod 4 and the pulley 13. The parts are held in the positions above described and which are indicated by dotted lines in Fig. 2 by the coil-spring 9. When the parts are in the positions as last above indicated, if the flexible element 13 is given a sudden upward pull the lug 14 and the side pieces 3 3 are moved into the positions as indicated by the heavy lines in the figures of the drawings, and the said parts are held in such positions by the coil-spring 9.

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

1. A device of the character indicated comprising a fixed step, a step pivotally attached thereto, a pulley journaled in fixed relation with the fixed step, a flexible element passing around said pulley and being attached to the pivoted step at a point, said point during the movement of the pivoted step describing an arc about the pivot thereof, the termini of which are located one above and the other below said pulley.

2. A device of the character indicated comprising a fixed step, a step pivotally attached thereto, a pulley fixed with relation to the



fixed step, a flexible element passing around said pulley and attached to the pivoted step, a spring connected with said pivoted step and the fixed step and adapted to hold the pivoted step in elevated or depressed position.

3. A device of the character indicated comprising a fixed step, a step pivotally attached thereto and means for swinging said pivoted step upon its pivot, a spring connecting at one end with the pivoted step at a point between the pivot and the tread of said step and at its other end with said fixed step.

4. A device of the character indicated comprising a fixed step, a step pivotally attached

thereto and means for swinging said pivoted step upon its pivot, a spring connecting at one end with the pivoted step at a point between the pivot and the tread of said step and at its other end with said fixed step and means for adjusting the tension of said spring.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GUST HAGBERG.

Witnesses:

CALEB C. THOMPSON,  
GUY C. SWANSON.