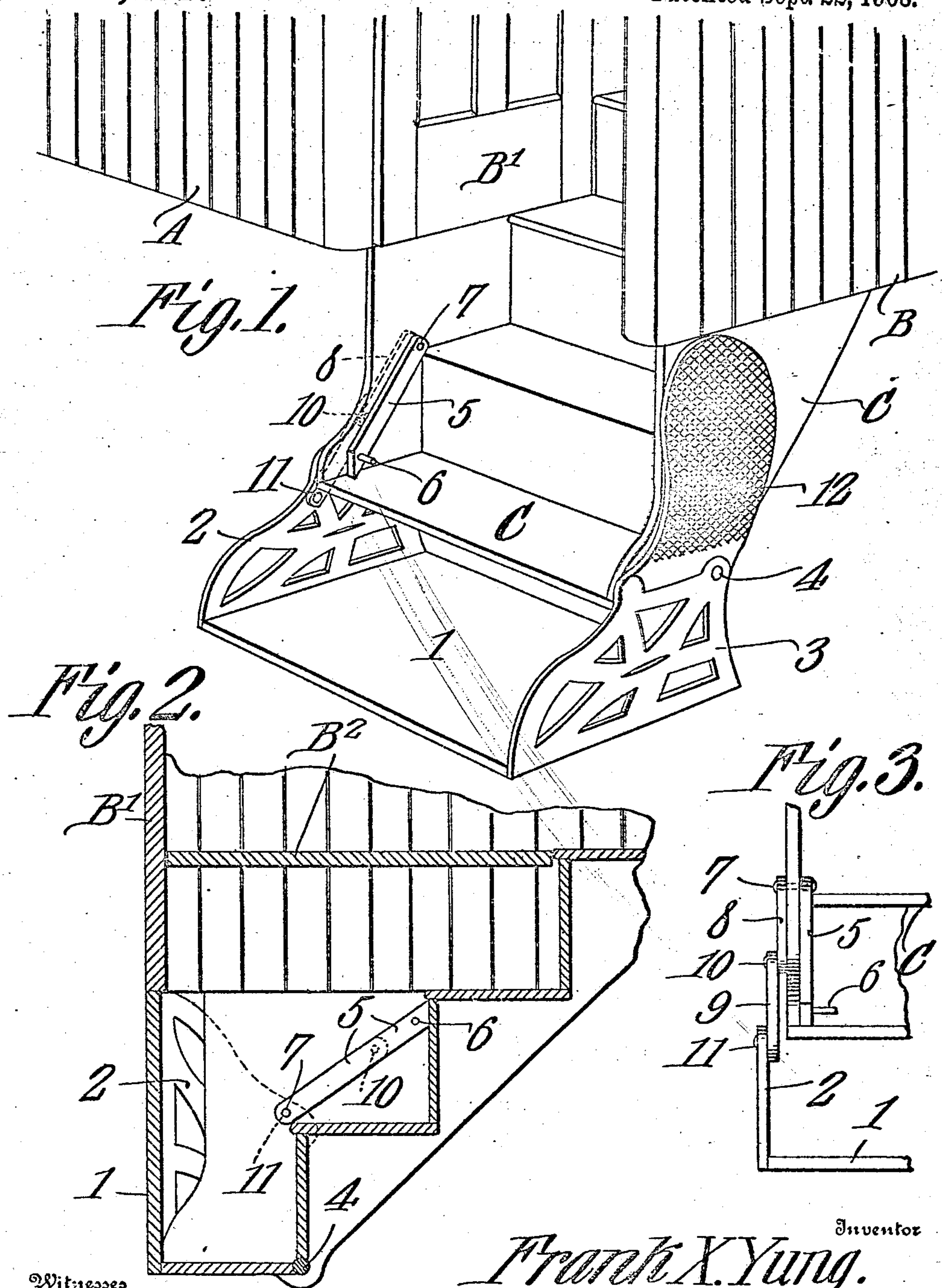


F. X. YUNG.
EXTENSION STEP.

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899,151.

Patented Sept. 22, 1908.



Witnesses

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UNITED STATES PATENT OFFICE.

FRANK X. YUNG, OF BINGHAMTON, NEW YORK.

EXTENSION-STEP.

No. 899,151.

Specification of Letters Patent.

Patented Sept. 22, 1908.

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To all whom it may concern:

Be it known that I, FRANK X. YUNG, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented a new and useful Extension-Step, of which the following is a specification.

This invention relates to extension steps for railway coaches and its object is to provide a simple and efficient device of this character which can be readily attached to the ordinary steps of a coach and which dispenses with the use of the handstep such as ordinarily employed.

Another object is to provide a step particularly designed for use in connection with vestibule coaches, the same being so positioned that when it is folded or raised into inoperative position it will house the fixed steps of the car and thus prevent persons from boarding the coach after the vestibule has been closed.

A further object is to provide simple means for locking the step in raised position, said means being also utilized for operating the step.

A further object is to provide an extension step which, when in closed or inoperative position, serves to shield the steps and keep them clean while the coach is in motion.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a perspective view of a portion of a coach and showing the step applied thereto. Fig. 2 is a vertical section through the step and the parts to which it is connected, said step being shown in closed position. Fig. 3 is a front elevation of one end portion of the step and the adjoining parts, said step being lowered as indicated in Fig. 1.

Referring to the figures by characters of reference, A designates a coach from the vestibule B of which extends steps C of the usual construction, the door B' of the vestibule being designed to close above the steps as ordinarily while a movable floor section B² is designed to be placed within the vestibule and above the steps as ordinarily. The present invention consists of an extension step 1 having side supports or hangers 2 and

3 which are preferably suitably ornamented and lap the sides of the lower step C and are pivotally connected thereto adjacent the rear portion of the step as indicated at 4. The parts are so proportioned that when the step 1 is swung upward upon its pivots 4 it will assume a perpendicular position in front of the steps C and extend upward from the front edge of the lower step C to the lower edge of the door B'. This position of the parts has been indicated in Fig. 2.

In order that the extension step may be conveniently operated a lever 5 is mounted upon the inner face of one side of the steps C and provided at one end with a crank extension 6 while its other end is secured to a pivot 7 extending through the side of the steps and secured to an arm 8. This arm is in turn pivoted to one end portion to the link 9 as shown at 10 and this link is pivotally connected to the side 2 of step 1 as indicated at 11. The distance between the pivots 10 and 11 is the same as the distance between the pivots 7 and 10 and the combined length of the arm 8 and link 9 is such that the step 1 when lowered will be held parallel with the steps C as shown in Figs. 1 and 3. A counterbalance 12 extends from the side 3 of step 1 and may be of any suitable size and proportions, this counterbalance being designed to assume a position close to one side of the steps C when the extension step is lowered. Whenever it is desired to raise the step 1 so that the step C will be completely housed the operator pulls upward on the crank 6 and lever 5 so as to swing the arm 8 upwardly. This will pull on link 9 and step 1 will be caused to swing on its pivots 4. When said step assumes an upright position as shown in Fig. 1 the pivot 10 will be brought into position in alinement with pivot 7, the link 9, arm 8 and lever 5 thus being brought parallel. Lever 5 can then be swung downward against the adjoining step 5 and past the dead center as shown in Fig. 2 thus forming a gravity lock so that the step 1 will be securely locked in closed position and can not be lowered unless the lever 5 is first raised past the dead center and swung downward. Obviously when the extension plate is closed it becomes impossible for any persons to board the car and moreover said step will act as a shield to prevent cinders, etc. from accumulating upon the steps C.

What is claimed is:

1. The combination with a car vestibule

including a door, a panel, and steps below the door and panel; of an extension step pivotally connected to the car steps, means operated independently of the panel for shifting the extension step into position in front of the car steps and in alinement with the door of the vestibule, said extension step when folded constituting a cover for all of the car steps.

2. The combination with a car vestibule including a door, a panel, and steps below the door and panel; of an extension step pivotally connected to the car steps, means operated independently of the panel for shifting the extension step into position in front of the car steps and in alinement with the door of the vestibule, said extension step when folded constituting a cover for all of the car steps, and means below the vestibule panel and above the car steps for shifting the extension step.

3. The combination with car steps; of a combined extension step and housing pivotally connected thereto, and means for raising the extension step, all portions of said raising means being movable in parallel planes and when shifted to a predetermined position constituting a gravity lock to hold the step

raised, said means including an actuating lever having a fixed pivotal point.

4. The combination with car steps; of an extension step pivotally connected thereto and constituting a housing therefor, an actuating lever mounted above the car steps and disposed to be concealed between said steps and the folded extension step, and link connections between said lever and the extension step, said lever and links being movable in parallel planes and arranged to constitute a gravity lock when shifted to a predetermined position.

5. The combination with car steps; of a counterbalanced extension step pivotally connected thereto, a pivot arm connected to the car steps, a link connection between the arm and extension step, and means for actuating the arm to fold the link thereon and raise and lock the extension step, said means having a fixed pivotal point.

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

FRANK X. YUNG.

Witnesses:

H. FRED LYON,
EDITH M. HUGHSTON.