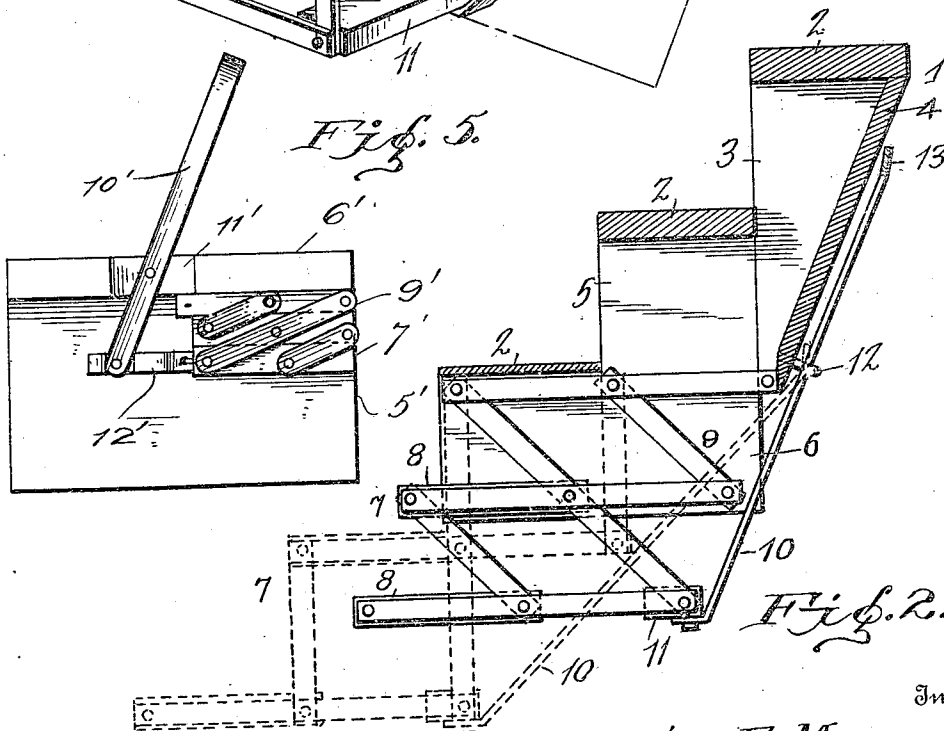
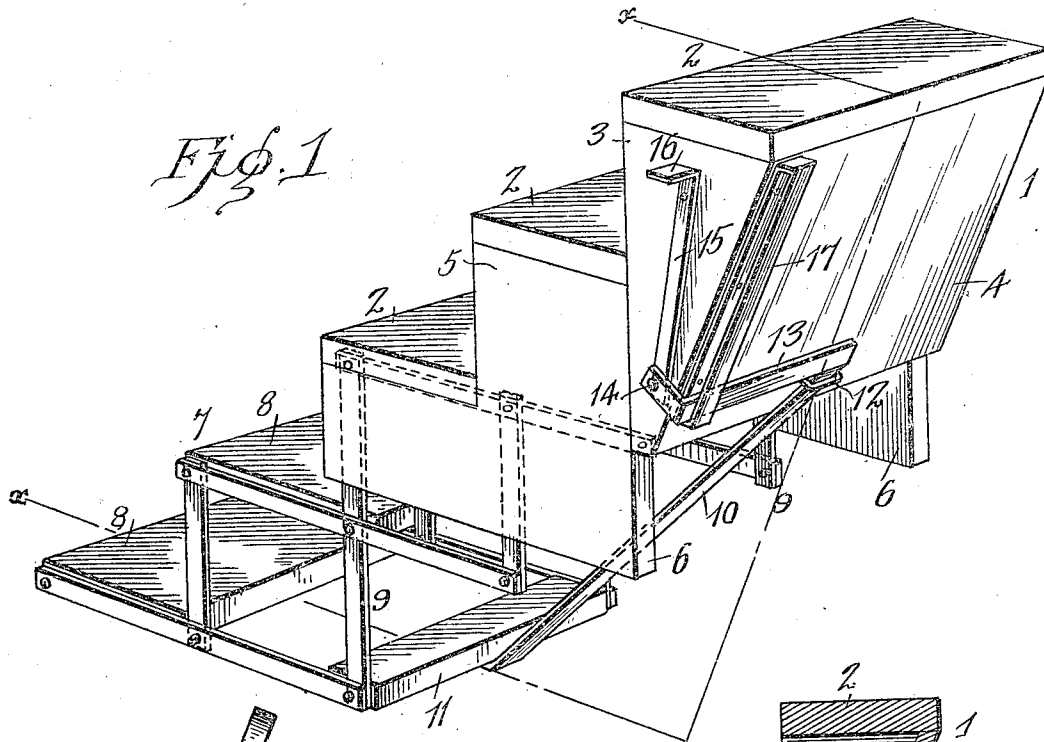


B. F. MASSEY.
EXTENSION CAR STEP.
APPLICATION FILED DEC. 4, 1909.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.

953,538.



Inventor

Benjamin F. Massey

Witnesses

J. A. Wells

Dr. L. M. Cathman

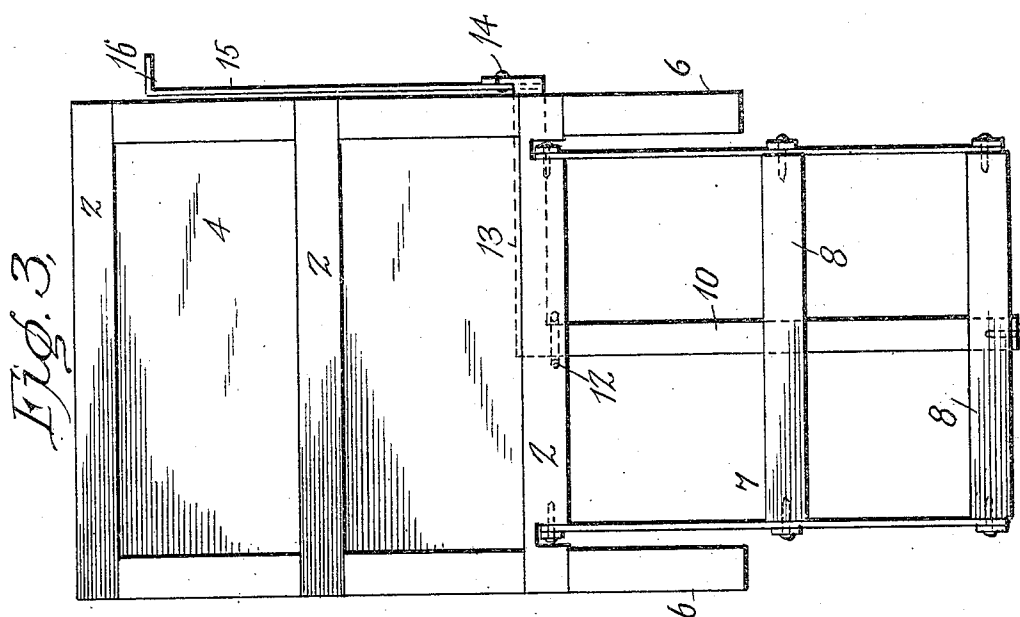
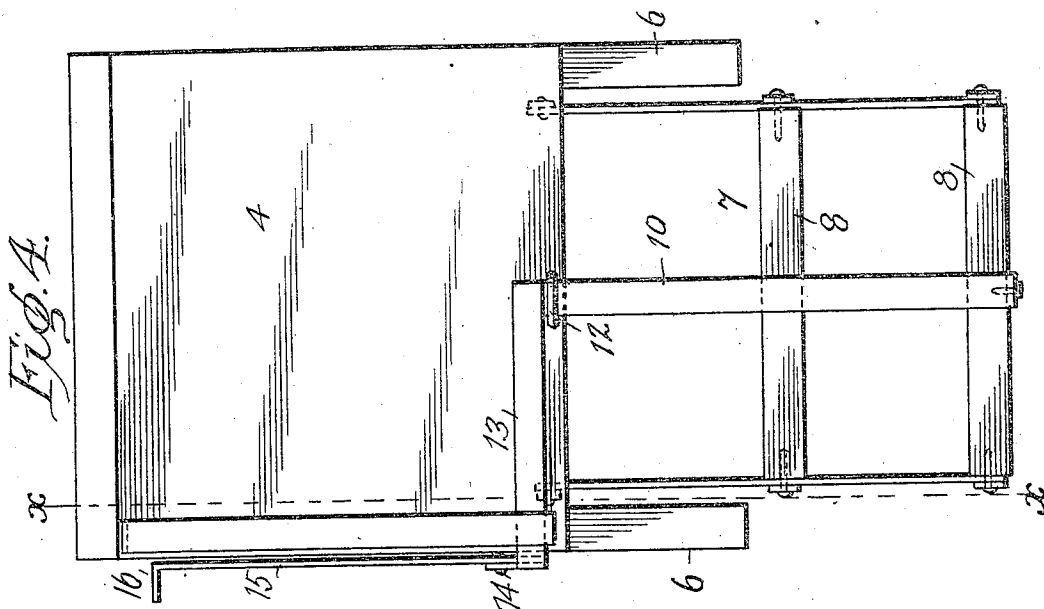
By *E. C. Uroon*,
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EXTENSION CAR-STEP.

953,538.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed December 4, 1909. Serial No. 531,361.

To all whom it may concern:

Be it known that I, BENJAMIN F. MASSEY, a citizen of the United States, residing at Charlotte, in the county of Mecklenburg and State of North Carolina, have invented certain new and useful Improvements in Extension Car-Steps, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to car steps and has special reference to that class of car steps in which the fixed steps depending from the platform are provided with extension steps adapted to be folded up against the fixed car steps.

The invention has for its object to provide an improved device of this character which may be readily brought into use and can be completely folded up out of the way.

With these and other objects in view the invention comprises certain novel constructions, combinations, and arrangements of parts, as will be hereinafter more fully described and claimed.

Referring to the accompanying drawing:—Figure 1 is a view in perspective of a set of fixed car steps and auxiliary foldable steps in extended position. Fig. 2 is a vertical section on line *x—x* of Fig. 1. Fig. 3 is a front view of the invention showing the auxiliary steps in extended position. Fig. 4 is a similar view looking at the rear. Fig. 5 is a view of a fixed car step with a portion thereof removed showing extension steps folded up within the fixed steps, and a modified device for operating the extension steps.

In carrying out the invention, I have provided a series of fixed steps 1 having treads 2 there being as many fixed steps as desired, and generally, the usual number employed in railway cars. The top step is provided with inclosed sides 3 and rear side 4 and the lower steps are provided with inclosed sides 5 of an L shape, the lowest step having depending sides 6 which are located at some little distance above the ground. Within this boxing, or casing formed by the construction of the fixed steps, is mounted a pair of lazy tongs 9, said lazy tongs carrying at the forward part of the lower portions of the same the steps 7 having treads 8 so located thereon as to swing horizontally beneath the inclosed fixed steps and when in an extended position to project beyond the riser of the lowest fixed step. In order to

operate the auxiliary steps suitable means is provided connected with the lazy-tongs, as for example, by means of the inclined rod or bar 10 secured at its lower end to a cross piece 11 fastened to the lower rear portion of the lazy-tongs 9, said bar 10 projecting at its upper end through a loop 12 on the back 4 of the highest fixed step and provided with a horizontal rod or bar 13 having at its outer end an angular projection 14 to which is secured a vertical bar or rod 15, having an angular end 16, which may be operated by the hand or foot to operate the lazy-tongs. The bar 13 projects through and is adapted to ride up and down in the guide casing 17, secured to the back 4 of the highest step.

When the auxiliary or extension steps are not in use they will be located in folded horizontal position beneath the lowest fixed step as shown in Fig. 2 and within the depending portions 6 of the sides 5. In this position the steps will be practically inclosed within the flight of fixed steps as well as the lazy-tongs mechanism. When the steps are in folded position the operating rod 15 will project above the top step and may be fastened in any suitable manner so as to hold the extension steps in folded position. By this means the extension steps will not only be out of the way, but may be readily thrown into extended position by pushing down on the rod or bar 15.

By means of this invention the extension steps will be out of the way when in a folded position so as to accommodate the location of the fixed steps adjacent to a station platform. When a car is away from a railway platform a considerable height exists between the lowest fixed step and the ground, and should passengers have to alight the extension steps may then be moved into position so as to bring the lowest step adjacent to the ground and enable passengers to alight without difficulty.

In Fig. 1 the movable steps are shown in fully extended position, and in Fig. 2 they are shown partly folded up. Referring to Fig. 5 a fixed step is shown having inclosed sides, one side 5' being shown together with the tread 6', the extension steps 7' having connected thereto lazy-tongs 9', which are shown as folded up within the fixed step. A modified form of device for operating the fixed steps consists of a lever 10' which extends through a passage-way 11', at one side of the tread of the fixed step and piv-

oted therein, the lower end of said lever 10' being pivoted to an angular arm 12', which is connected to the lowest of the extension steps. By this means instead of the steps 5 being pulled up by the operating handle they are drawn up into folded position by swinging the handle 10'. Any suitable means may be employed for locking said handle and holding the steps in folded position. 10

Having described the invention what I claim is:—

1. In a device of the character described, a flight of fixed steps having inclosed sides the 15 lowest fixed step having depending side portions, pairs of lazy-tongs mounted within said depending side portions, extension steps mounted on said pairs of lazy-tongs and adapted to be folded therewith within the 20 depending side portions of the fixed steps, a lever mechanism secured to the lower portion of the lazy-tongs mechanism, and movable in guides on the rear of the top fixed step, and a vertical operating arm connected 25 to said lever mechanism.

2. In a device of the character described,

a flight of fixed steps having inclosed sides, the lowest step having depending side portions, a pair of lazy-tongs mounted within said depending side portions, movable ex- 30 tension steps mounted on said lazy-tongs and having a horizontal and vertical movement, and adapted in connection with said lazy tongs mechanism to be folded up within the depending side portions of the 35 fixed steps, a guide hanger secured to the rear of the uppermost fixed step, a horizontal arm slidable within said hanger and having a bent end, a bar extending through a guide on the rear of the upper- 40 most fixed step and secured to said horizontal bar at one end, and to the lazy-tongs mechanism at its other end, and an operating rod secured to the angular end of the horizontal bar and movable vertically at the 45 side of the uppermost fixed step.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

BENJAMIN F. MASSEY.

Witnesses:

H. C. WILLIAMS,

E. W. CADY.