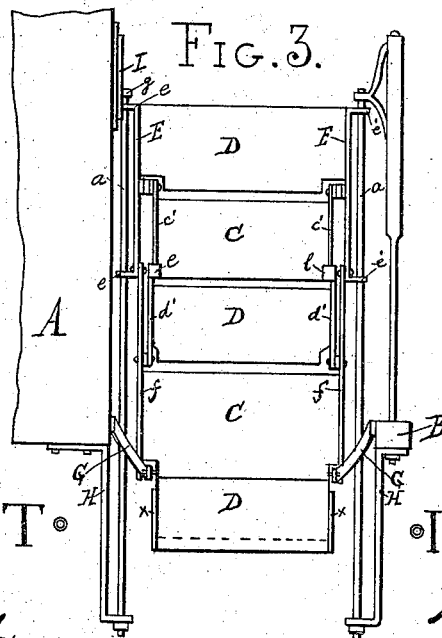
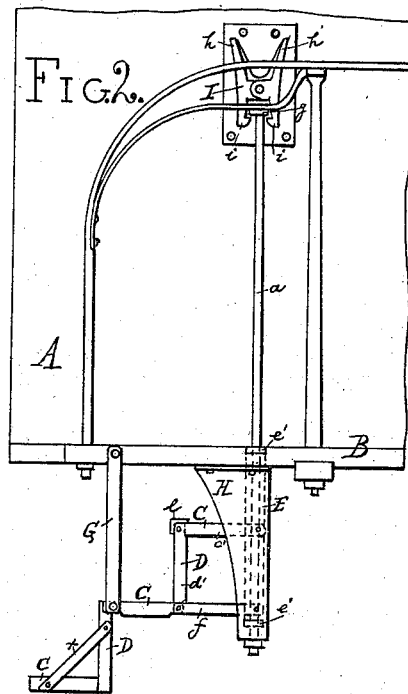
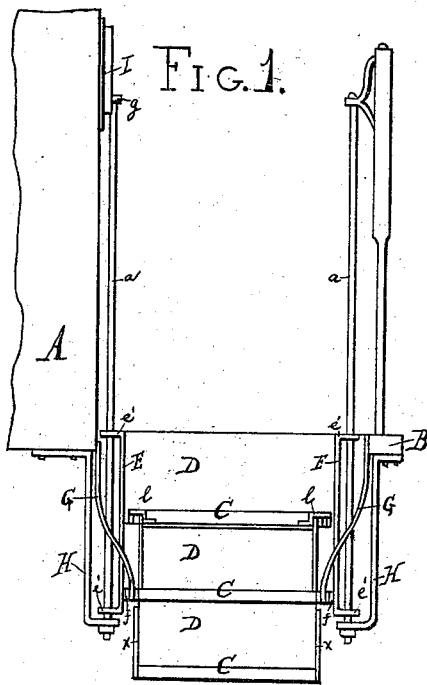


(No Model.)

W. NEUMANN.
ADJUSTABLE CAR STEP.

No. 383,588.

Patented May 29, 1888.



•ATTEST•

Louis Zell,
William Kefenstein.

•INVENTOR•

William Neumann,
per Harthel & Co.
att'y's.

UNITED STATES PATENT OFFICE.

WILLIAM NEUMANN, OF ST. LOUIS, MISSOURI.

ADJUSTABLE CAR-STEP.

SPECIFICATION forming part of Letters Patent No. 383,588, dated May 29, 1888.

Application filed July 11, 1887. Serial No. 244,046. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NEUMANN, a citizen of the United States, residing at St. Louis and State of Missouri, have invented a new and useful Improved Adjustable Car-Step, of which the following is a specification.

The object of this invention is to provide adjustable car-steps for passenger railroad-cars and for other similar purposes, the said adjustable steps being arranged at either end of the car, so that when folded up they form a guard or protector to prevent persons from getting on or off the platforms, thereby avoiding accidents and personal injuries to passengers. I attain this object by the mechanism illustrated in the accompanying drawings, of which—

Figure 1 is a side elevation of my adjustable steps attached to car-platform. Fig. 2 is a sectional end elevation of same. Fig. 3 is a side elevation showing steps folded up as a guard or protector.

Similar letters refer to similar parts throughout the several views.

A represents the body of the car; B, the platform, which is attached to car A in the usual manner.

C C C are the steps, and D D D are the risers. The first step C, Figs. 1, 2, I rigidly fasten to its riser by bars *x*. The intermediate step C and its riser D (more particularly shown in Fig. 2) I attach together by means of links or bars of iron, *c'* and *d'*, placed against the ends of steps in such manner that they are pivoted at junction of riser and step, said links being the length of tread and riser, with flange on under side. Links *c'* are also pivoted at their other ends to sliding bars E, said sliding bars E having loops *e'* at both ends, being then attached to upper riser D of intermediate step C, links *d'* of tread D being again pivoted at junction of its tread and riser to bars or links *f*, said links *f* being pivoted at their far ends to riser C at the junction of tread and riser. Finally, links *f*, being of sufficient length, are again pivoted at their other ends to lower end of sliding bars E.

I hold up in position the series of steps and risers, when used as steps for passengers to enter the car, by suspending bars or links G, pivoted at their ends to platform B and step C.

To the under sides of car and platform I rigidly fasten stanchions H, having lugs or loops at lower ends to hold in position sliding rods *a*, placed on both sides of my steps, said sliding rods *a* being of length to be attached to body of car A by metal loop *g* on one side, and on the other fastened to guard-rail of platform.

Against the body of the car, and over metal loop *g* of sliding rod *a*, I provide spring hook or clamp I, having catches *i* and arms *h*, by means of which, when the steps are raised in position to form the guard, the catches *i* of clamp I will seize the metal loop *e'* of sliding bar, and thus hold the parts in position until released.

In order that the steps and risers do not fold too far inward when raised to form the guard, I provide the intermediate step C with metal guards *l*, attached to same immediately over the pivoted links *c'* *d'*, so that when folded up said guards *l* will prevent the turning of said links.

When used for steps to enter the car, the series of steps and risers remain in their normal position, as shown in Figs. 1, 2. When thrown up to form the guard, said steps C C C and risers D D D adjust themselves by means of their pivoted links or bars, as shown in Fig. 3.

What I claim is—

1. The car-steps C C C and risers D D D, when constructed so as to be convertible at pleasure into steps or guards, as and for the purpose set forth.

2. In adjustable car-steps, links *c'* *d'* and sliding bars E, in combination with sliding rods *a*, clamp I, and links *f*, as and for the purpose set forth.

3. In adjustable car-steps, suspending-links G, links *f*, and links *c'* *d'*, in combination with metal guards *l*, as and for the purpose set forth.

In testimony of said invention I have hereunto set my hand.

WILLIAM NEUMANN.

Witnesses:

JOHN W. HERTHEL,
LOUIS NEUMANN.