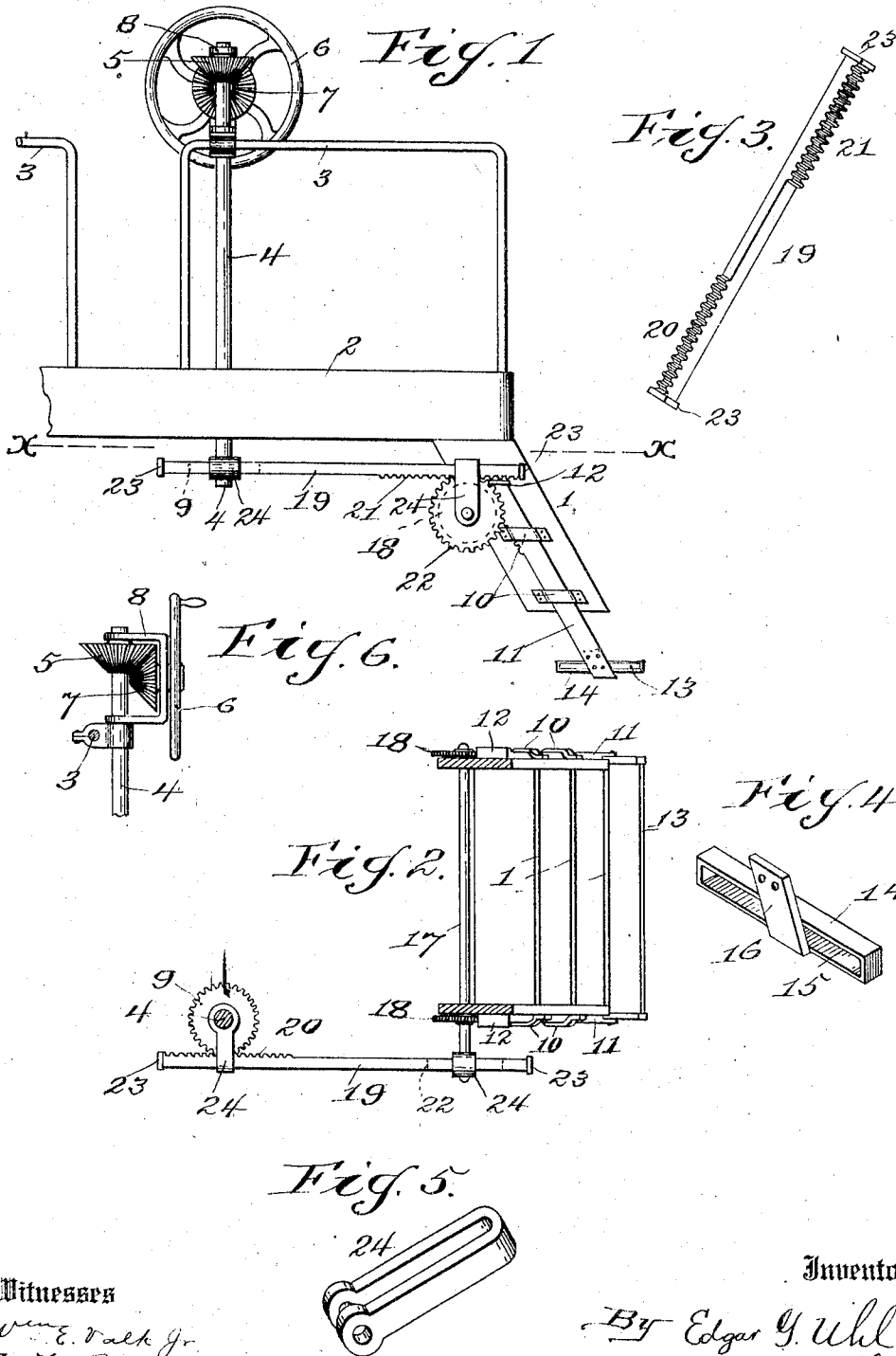


E. G. UHL.
EXTENSIBLE CAR STEP.
APPLICATION FILED OCT. 31, 1911.

1,016,800.

Patented Feb. 6, 1912.



Witnesses

Wm. E. Dalk Jr.
C. J. Bell

Inventor

By Edgar G. Uhl,
W. H. Wills,
Attorney

UNITED STATES PATENT OFFICE.

EDGAR G. UHL, OF ENCINAL, TEXAS.

EXTENSIBLE CAR-STEP.

1,016,800.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed October 31, 1911. Serial No. 657,726.

To all whom it may concern:

Be it known that I, EDGAR G. UHL, a citizen of the United States, residing at Encinal, in the county of Lasalle and State of Texas, have invented certain new and useful Improvements in Extensible Car-Steps, of which the following is a specification.

This invention relates to car steps and pertains especially to means for operating a supplemental car step.

The object of the invention is to provide novel and peculiar mechanism of simple and inexpensive construction applicable to car platforms, and operated from the latter for operating an extensible step.

A further object of the invention is to provide an extensible car step capable of attachment or connection with the usual or ordinary car steps, and to furnish novel and peculiar rack and pinion mechanism for sliding the step on the same angle or pitch as the ordinary steps so as to vary the position of the supplemental step relative to said steps.

A still further object of the invention is to provide a rack bar of novel and peculiar construction adapted to be operated from the car platform for operating a supplemental car step, and to furnish novel and peculiar means for mounting the step, and for connecting it with the said rack bar.

Various other objects, advantages and improved results are attainable in the practical application and working of the invention.

In the accompanying drawings forming a part of this application—Figure 1 is an end view of part of a car platform showing the application of the invention. Fig. 2 is a sectional view on the line X—X Fig. 1. Fig. 3 is a detail perspective view of the double rack bar. Fig. 4 is a perspective view of one of the step brackets. Fig. 5 is a perspective view of the keeper for the double rack bar. Fig. 6 is a detail elevation of the hand wheel gear.

The same reference numerals denote the same parts throughout the several views of the drawings.

In carrying out my invention, and for the purpose of illustrating the same it is shown applied to the usual car steps 1, of an ordinary car platform 2, having a railing 3.

In order to operate the supplemental step from the platform of a car, I provide a vertical shaft 4, having a beveled gear 5, secured to the upper end of the shaft, and a

hand wheel 6, having a beveled gear 7 meshing with the gear 5, and held to the shaft 4 by means of a hanger 8. The shaft 4 projects below the platform 2, and the lower end of the shaft is provided with a pinion 9.

The sides of the ordinary steps 1 are provided with keepers 10, in which are operated sliding bars 11, having teeth at the upper end thereof, and a head 12 to limit the downward movement of the said bars. The lower end of the said bars carries the supplemental step 13, which is connected therewith by a pair of brackets 14, having an opening 15 for the ends of the step 13, and said brackets are each provided with a plate 16 central thereof, such plates extend over the step opening and prevent lateral movement of the step, and a portion of the plates extends above the brackets so as to afford means for holding the sliding rack bars 11 thereto. The rear edge of the ordinary step frame or sides has a shaft 17 revolvably mounted thereon, and said shaft is provided with a pinion 18 at each end thereof, and such pinions mesh with the teeth of the sliding bars 11. The means for imparting motion to the shaft 17 from the shaft 4 comprises a double rack bar 19, having teeth meshing with the pinion 9, and teeth, on the opposite end of the bar, at right angles to the teeth 20, for engaging a gear 22 mounted on the shaft 17. The rack bar 18 is provided with heads 23, to limit the movement of said bar, and a keeper 24 is mounted on the hub of the gears 9 and 22 to prevent displacement of the bar 19. The rack bar 19 is slidable at right angles to the shafts 4 and 17, and the rack bars 11 are slidable at an angle to the bars 4 and 11.

It is obvious that the step 13 may be projected and retracted with respect to the steps 1, as desired by simply operating the hand wheel 6; and that by reason of the bars 11 being slidable on an angle to the pitch or rise of the steps 1, the step 13 has the same relative pitch and may be given the same rise as the steps 1, or the rise of the step 13, may be varied with respect to the steps 1, as desired or as occasion may demand.

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

1. The combination, with passenger car

steps, an extensible step, and a pair of rack bars slidable on the sides of the steps, of a rack bar having two sets of teeth, one set thereof being at right angles to the other set, a hand-operated gear, a vertical shaft, a pinion on each end of the shaft for imparting motion to the double rack bar, and means for operating the vertical shaft.

2. The combination, with a passenger car step, a supplemental slidable step, and a pair of rack-bars slidable on the sides of the said steps, of open brackets in which the ends of said step are carried, a plate on the brackets and forming an abutment for the step and having the said rack-bars secured thereto, and mechanism for sliding the rack-bars.

3. The combination, with passenger car steps, a supplemental step, a hand wheel, a gear secured to the hand wheel, a vertical

shaft having a gear meshing with the hand wheel gear, a pinion on the vertical shaft, a horizontal shaft journaled on the steps, and a plurality of gears on this shaft, of a rack-bar having one set of teeth meshing with the said vertical shaft pinion, and another set of teeth meshing with one of said horizontal shaft gears, a pair of rack-bars slidably attached to the sides of the steps and meshing with the other of said gears of the horizontal shaft, and brackets for holding and connecting the supplemental step with the said pair of rack-bars.

In witness whereof I hereunto set my hand in the presence of two witnesses.

EDGAR G. UHL.

Witnesses:

JOHN McMULLIN,
JAMES CARR.