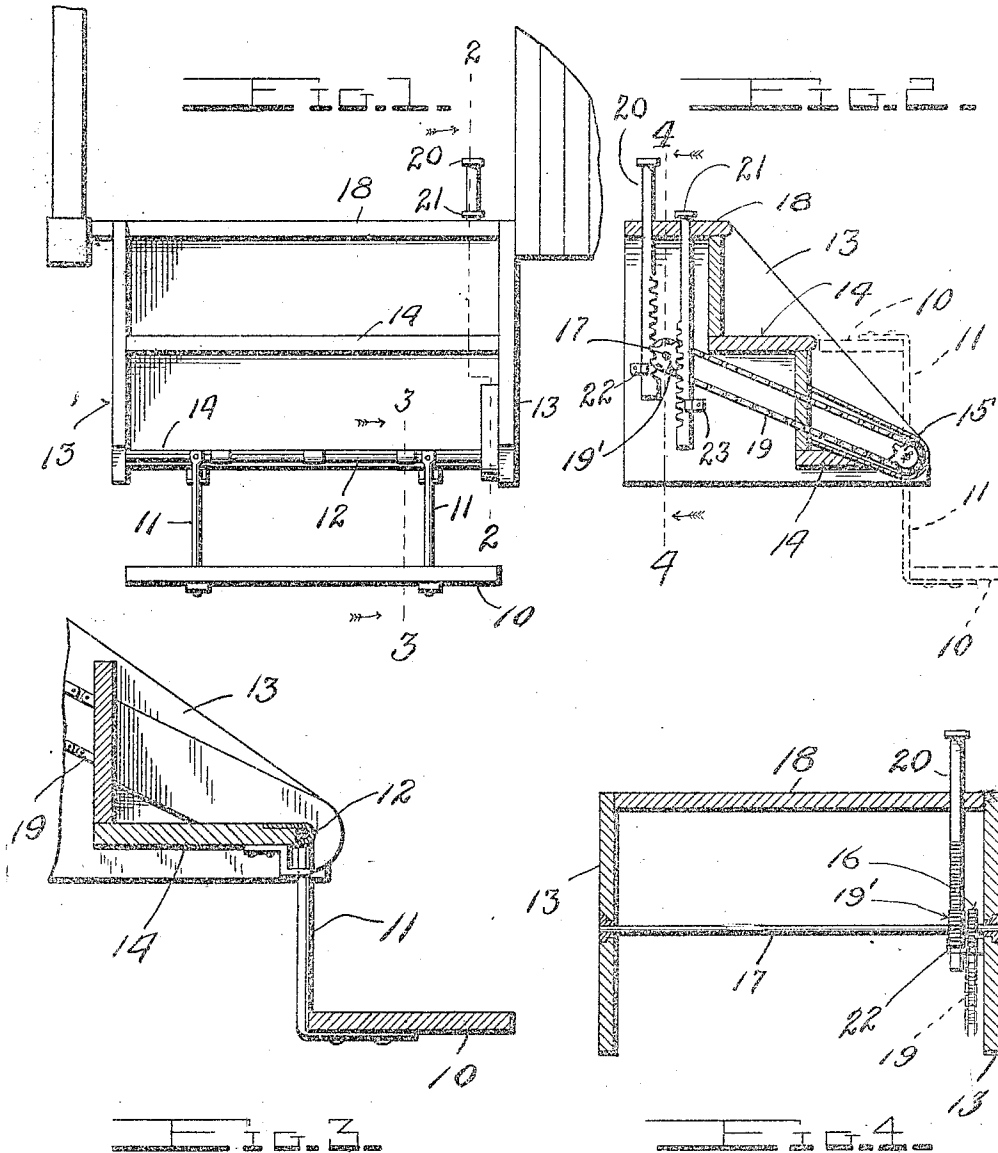


R. FINGER.
FOLDING EXTENSION STEP.
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1,060,563.

Patented Apr. 29, 1913.



Witnesses
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UNITED STATES PATENT OFFICE.

RUDOLPH FINGER, OF CLINTON, INDIANA.

FOLDING EXTENSION-STEP.

1,060,563.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RUDOLPH FINGER, a citizen of the United States, residing at Clinton, in the county of Vermilion, State of Indiana, have invented certain new and useful Improvements in Folding Extension-Steps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to car steps and more particularly to folding steps.

An object of the invention is to provide a car step which may be readily folded upon an upper step or swung to its lower position, as desired.

Another object is to provide a step of this character supported in such manner that it will be securely held in either position and which may be swung by simply depressing a rod preferably projecting through the platform of the car.

Another object is to generally improve and simplify the construction and operation of the supporting and operating mechanism of a car step of the above stated nature.

With these and other objects in view, my invention will be more fully described, illustrated in the accompanying drawings which show a preferred embodiment of my device and then specifically pointed out in the claim which is attached to and forms a part of this application.

In the drawings: Figure 1 is a front elevation of a folding extension step and its supporting and operating mechanism constructed in accordance with my invention. Fig. 2 is a vertical sectional view on the line 2—2 of Fig. 1. Fig. 3 is a sectional view at right angles to Fig. 2, said view being taken on the line 3—3 of Fig. 1. Fig. 4 is a similar view taken on the line 4—4 of Fig. 2.

Referring more specifically to the drawings, in which similar reference numerals designate corresponding parts throughout, 10 designates the extension step, to the rear edge of which are secured the lower ends of the suspending rods 11 having their upper ends secured upon the rod 12 having its opposite end rotatably mounted in the guide members 13 between which the stationary steps 14 are secured.

The sprocket wheel 15 is secured upon the end thereof while a second sprocket wheel

16 is carried upon one end of the upper rod 17 which upper rod is also rotatably mounted through the guide members 13 beneath the platform 18. A sprocket chain 19 is passed around the sprocket wheels 15 and 16 to rotate the lower rod 12, as will be later clearly understood.

Positioned upon the upper rod 17 a spaced distance from the sprocket wheel 16 and engaged with the opposite sides of the pinion 19' are the vertical rack bars 20 and 21. The rack bars 20 and 21 project through the platform 18 and are guided in their vertical movement by means of the bracket members 22 and 23 respectively projecting from one of the guide members 13 and engaging the smooth edges of said rods 20 and 21, thus retaining the rods engaged with the pinion 19'.

In operation, the rod 20 is depressed to cause rotation of the pinion 19 and rod 17 in one direction and thus compel the chain to rotate the sprocket wheel 15 and thus swing the step 10 to its upper position. To swing the step 10 to its lower or extended position, it is simply necessary to depress the rack bar 21, thus causing a reverse rotation of the pinion 19', sprocket chain 19, sprocket wheels 16 and 15 and lower rod 12, as will be clearly understood.

From the foregoing it will be clearly apparent that I have provided a folding extension step and supporting and operating mechanism therefor, by means of which the step may be readily swung to upper or folded position or to its lower extended position, as desired.

It will be further apparent that the complete device is of extremely simple construction and operation and should any of the parts become worn or broken they may be readily replaced at a small cost.

It will be apparent that minor changes in the details of construction may be made if desired without in the slightest degree departing from the spirit of my device.

What I claim is:—

In an extension step, the combination with side members bearing stationary steps therebetween, said side members having upper horizontal edges secured to the opposite ends of a platform, of an upper shaft secured through the side members beneath the platform, a lower shaft secured to the side members at the lower forward corners thereof, suspending rods projecting from the lower

shaft, an extension step carried upon the lower ends of said supporting rods, sprocket wheels carried by said shaft, a sprocket chain connecting said sprocket wheels, a pinion carried by the upper shaft, a rack bar engaged with the pinion and projecting through the platform to rotate the shaft in one direction upon downward movement of said rack bar to swing the extension step to its upper position upon the stationary step, a second rack bar engaged with the pinion and projecting through the platform for rotating the shaft

in a reverse direction upon downward movement of said second rack bar to return the extension step to its lower position below and forwardly of the stationary step, and means carried by one of the side members for guiding the rack bar.

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

RUDOLPH FINGER.

Witnesses:

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