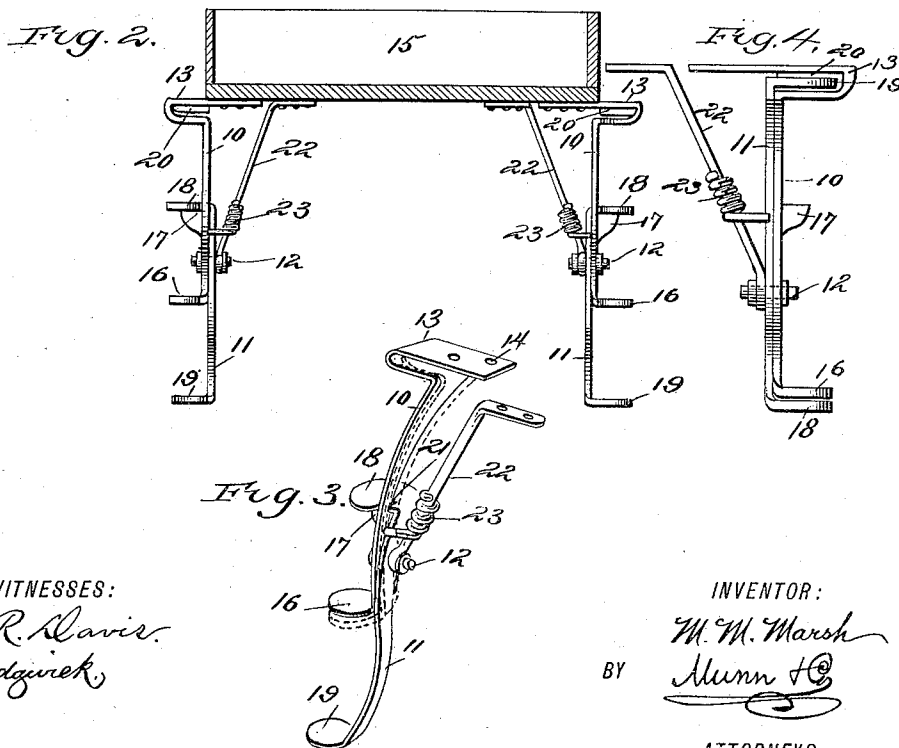
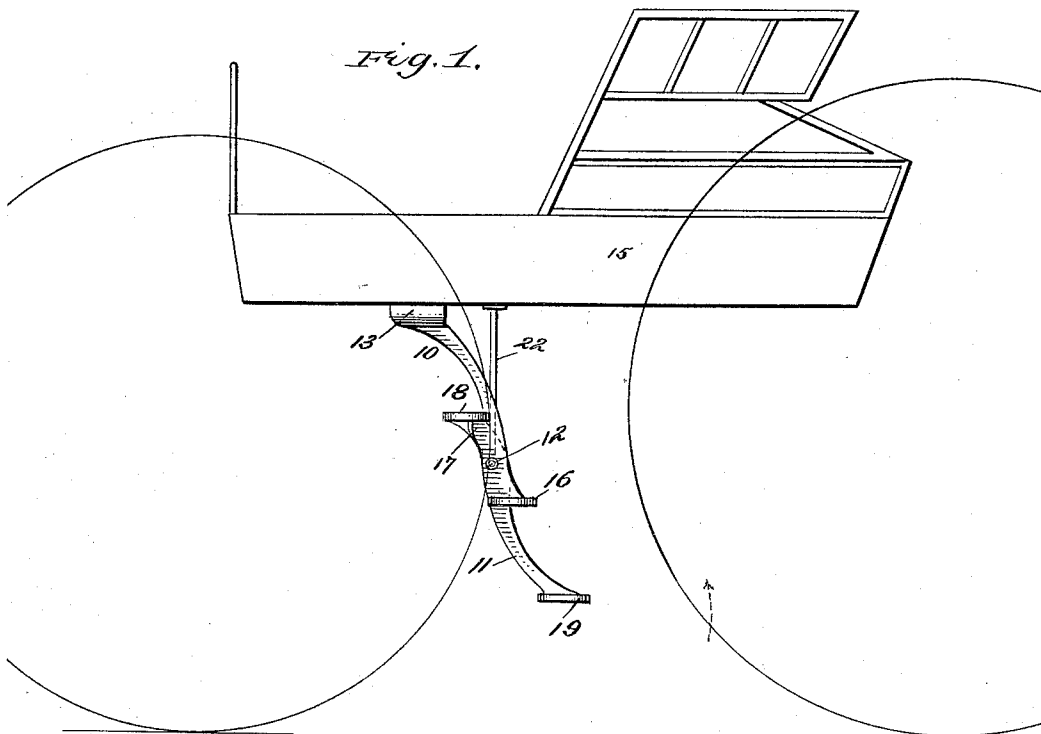


(No Model.)

M. M. MARSH.
FOLDING STEP FOR VEHICLES.

No. 401,845.

Patented Apr. 23, 1889.



WITNESSES:

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FOLDING STEP FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 401,845, dated April 23, 1889.

Application filed February 12, 1889. Serial No. 299,606. (No model.)

To all whom it may concern:

Be it known that I, MATTIE MIX MARSH, of Moscow, in the county of Nez Perces, and Territory of Idaho, have invented a new and Improved Folding Step for Vehicles, of which the following is a full, clear, and exact description.

My invention relates to an improvement in folding steps for vehicles, and has for its object to provide a device of simple, light, and durable construction capable of attachment to any vehicle; and a further object of the invention is to provide a means for effectually retaining the lower section in the upper or folded position when not in use.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a vehicle-body having my improved step applied. Fig. 2 is a transverse section through a vehicle-body, showing the step folded down, in rear-elevation. Fig. 3 is a perspective view of one of the steps detached from the body, the lower section being dropped down; and Fig. 4 is a rear elevation or edge view of the step, illustrating the lower section as folded up upon the upper section.

In carrying out the invention the step comprises two sections, 10 and 11, which, when folded one upon the other, are parallel, and are pivotally connected by a bolt or pin, 12, near the lower end, as shown in Fig. 4. The several sections of the step may be either straight or curved, as found desirable. The outer extremity of the main section 10 is bent at a right angle outward and again in parallel lines inward horizontally to form an upper tread-plate, 13, the inner end of which tread-plate is provided with suitable apertures, 14, to receive bolts, whereby the inner end of the plate is rigidly attached to the vehicle-body 15.

The lower extremity of the main section is bent at a right angle from the outer side to provide another tread-plate, 16, and upon the

forward edge of the said main section, above its pivotal connection with the lower section, an outwardly-projecting lug or shoulder, 17, is formed. The extremities of the pivotal or drop section of the step are bent outward to provide an upper tread-plate, 18, and a lower similar plate, 19, the pivotal section 11 being of such length and the angle of the tread-plates so determined that when the drop or pivotal section is folded up parallel with the fixed section the upper tread-plate, 18, will be located immediately under the lower tread-plate of the main section and in close proximity thereto, as shown in Fig. 4, and the lower tread-plate, 19, within the loop formed by the bend of the upper tread-plate of the fixed section, as also illustrated in Fig. 4. When the sections are in this folded position, the inward movement of the pivotal or drop section is limited by a flange, 20, extending downward from the forward edge of the upper tread-plate of the main section, as best shown in Fig. 2. When the pivotal section of the step is dropped downward to form an extension of the main section, the upper tread-plate, 18, which is provided with a recess, 21, to receive the forward edge of the main section, as shown in Fig. 3, is supported by the lug or shoulder 17. When the sections are in this position, the upper tread-plate, 18, of the pivotal section is above the lower tread-plate, 16, of the main or fixed section. Thus four easy tread-plates are provided located at a suitable distance apart.

In order to brace the step, I secure one end of a brace-rod, 22, to the inner end of the pivot-pin 12, and attach the upper end of the said rod to the under surface of the vehicle body, and in order to secure the lower or drop section, 11, in the folded position when it is not necessary to use it, or when the vehicle is in motion, a spring, 23, is coiled around the brace-rod 22, the upper end of which spring is rigidly fastened to the rod and the other end is made to project at a right angle outward to an engagement with the forward edge of the drop-section when in the closed position illustrated in Fig. 4.

The spring 23 is of sufficient tension to retain the drop-section in the elevated position, but is sufficiently light to permit the said sec-

tion to be disengaged therefrom and brought to the drop position illustrated in Fig. 3, when the projecting end of the spring will be removed a slight distance from the rear edge of the said drop-section.

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

1. As an improved article of manufacture, a carriage-step comprising an upper section and a lower section pivoted thereto, each section being provided with an outwardly-extending tread-plate at each extremity, substantially as shown and described.

2. As an improved article of manufacture, a folding carriage-step comprising two sections pivoted one to the other, the upper section provided with a tread-plate at each extremity extending at a right angle outward from one face, and a lug or shoulder integral with one edge between said tread-plates, the lower section being provided at each extremity with an outwardly-projecting tread-plate, the upper tread-plate of the lower section, when the step is unfolded to its full extent, being adapted to rest upon the shoulder of the upper section, and the lower tread-plate to extend beyond and below the similar plate of the upper section, substantially as shown and described.

3. As an improved article of manufacture, a folding step for vehicles, comprising an upper and a lower section pivotally connected, each provided at the extremities with a tread-plate extending at a right angle from the outer face, and a brace-rod attached to the pivot-pin of the sections and provided with a spring adapted for engagement with the lower section when said section is folded up parallel with the upper section, substantially as shown and described.

4. In a folding step for vehicles, the combination, with an upper section having the upper end bent outward at a right angle upon itself and horizontally inward to form an upper tread-plate, and a lower extremity bent outward at a right angle to form a lower tread-plate, and a lug integral with the forward edge between the upper and lower tread-plates, of a lower or drop section pivoted to the upper section having the extremities bent at a right angle outward to form a tread-plate, the uppermost of which plates is provided with a recess to receive the forward edge of the upper section immediately below the lug thereon, substantially as shown and described.

5. In a folding step for vehicles, the combination, with an upper section having the upper end bent outward at a right angle upon itself and horizontally inward to form an upper tread-plate, and the lower extremity bent outward at a right angle to form a lower tread-plate, and a lug integral with the forward end between the upper and lower tread-plates, of a lower or drop section pivoted to the upper section having the extremities bent at a right angle outward to form a tread-plate, the uppermost of which plates is provided with a recess to receive the forward edge of the upper section immediately below the lug thereon, a brace-rod attached to the pivot-pin of the step-sections, and a spring coiled upon the said rod capable of engaging with the lower or drop section, substantially as shown and described.

MATTIE MIX MARSH.

Witnesses:

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