GEORGE GREGORY.

Improvement in Folding-Steps for Carriages.

No. 114,673. Patented May 9, 1871.

fig. 1

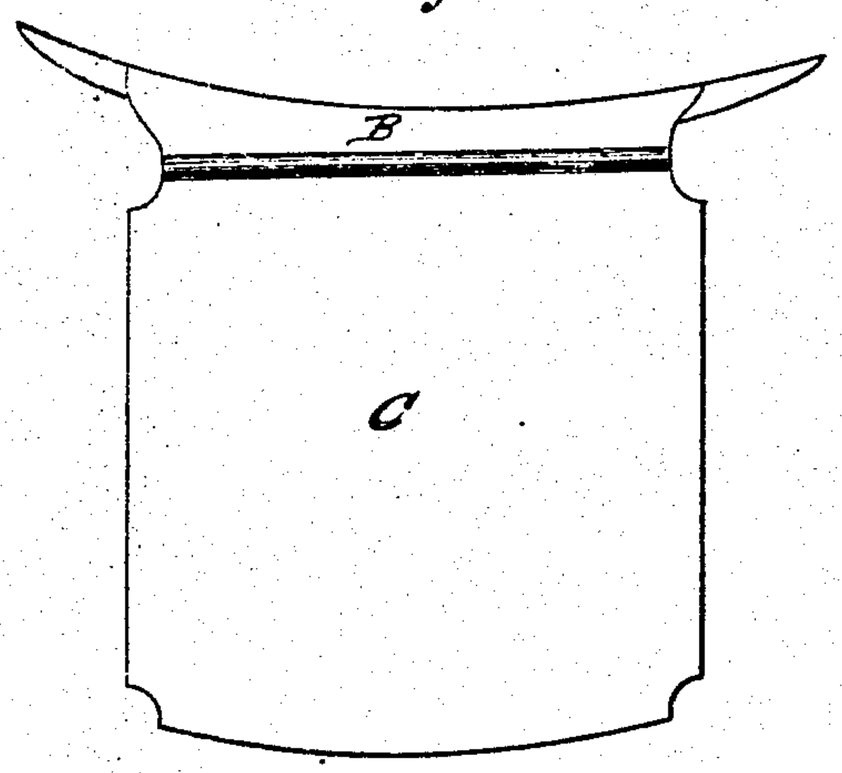


fig. 2.

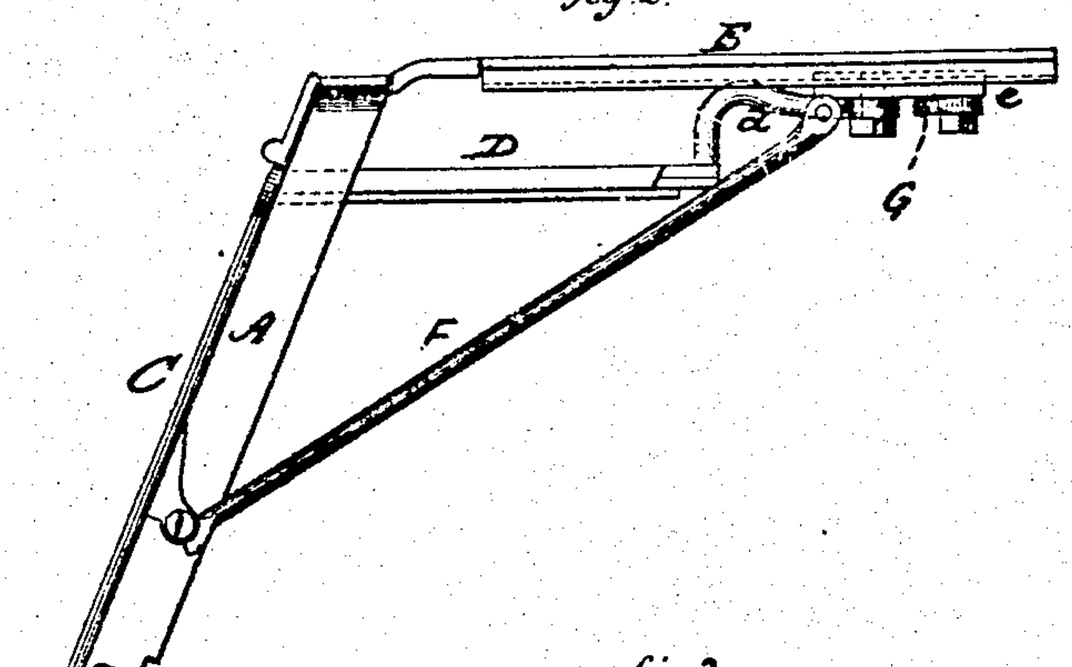
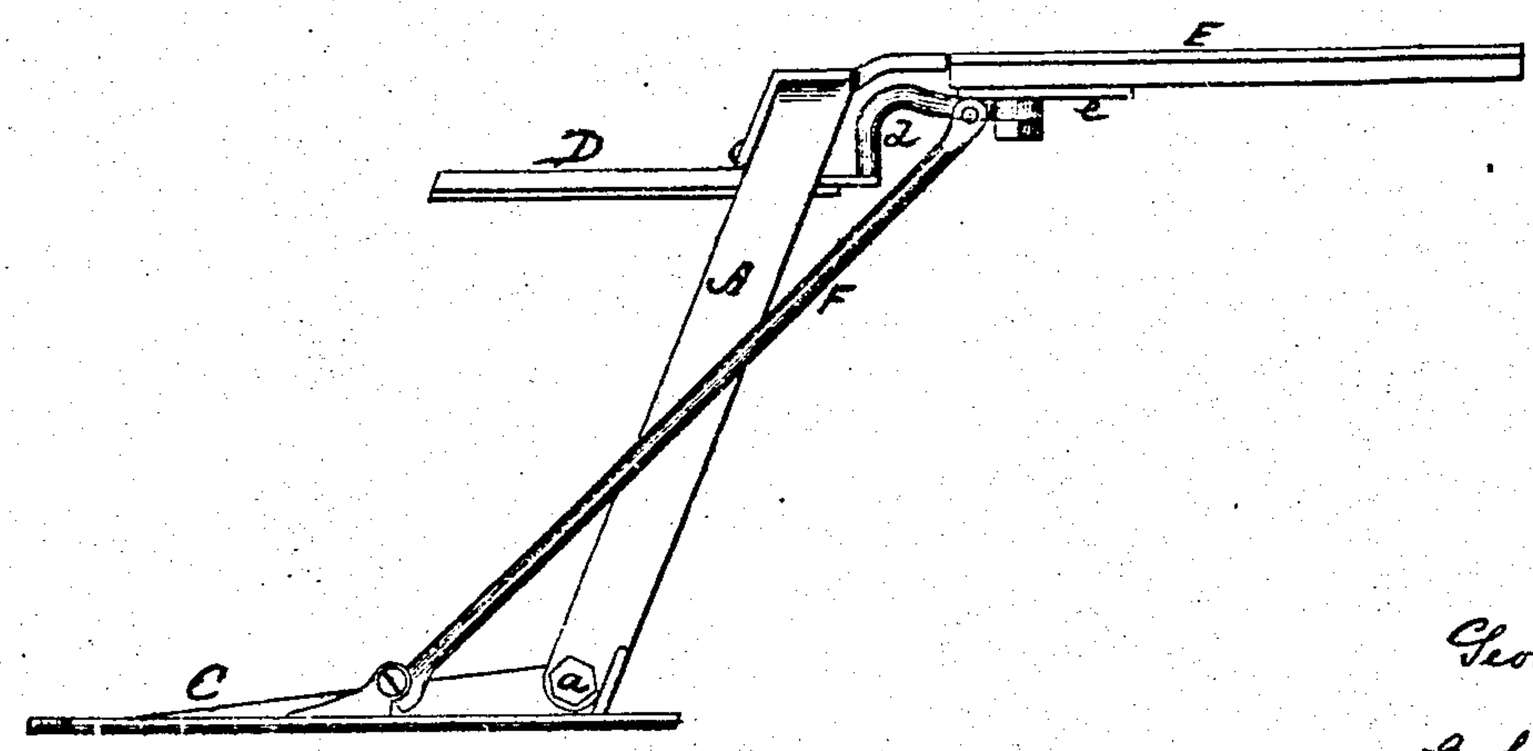


fig. 3.



Witnesses.
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GEORGE GREGORY, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO WILLIAM H. BRADLEY, OF SAME PLACE.

Letters Patent No. 114,673, dated May 9, 1871.

IMPROVEMENT IN FOLDING STEPS FOR CARRIAGES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE GREGORY, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Folding Step for Carriages; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents in—

Figure 1 a front view;

Figure 2, a side view, the step closed; and in

Figure 3, a side view, the step open.

This invention relates to an improvement in that class of steps which is arranged to open and close by the movement of the carriage door, and consists in the arrangement of a folding step, which serves as a cover for the step-frame, combined with a second step which slides transversely through the frame, throwing out as the folding step is opened, and retreating as the folding step is closed.

A is the frame, attached to the carriage by a plate, B.

C, the lower or principal step, is pivoted to the frame at *a*, so as to cover the frame when closed, as in figs. 1 and 2, and so as to be dropped into a level position for the tread, as seen in fig. 3.

At a convenient distance between the lower step and upper part of the frame a slot is formed, through which the second step D will freely slide out and in. From the said step D an arm, *d*, extends up and is fixed to a slide, *e*, which moves transversely across the bottom of the carriage in a suitable guide, E.

From the slide *e* a rod, F, extends to the step C, and pivoted to both the step and slide, as seen in figs. 2 and 3.

From the said slide *e* another rod, G, (shown in fig. 2 as broken off,) extends to and is connected with the door, so that when the door is open the said slide is drawn forward, and when the door is closed the slide is drawn back; hence when the door is opened the slide *e*, being connected to the step D, throws that step directly out, as from the position in fig. 2 to that in fig. 3.

The two steps being connected to the said slide *e* are both simultaneously operated—that is to say, the first step C is opened or turned down, while the other step D slides directly out.

The advantages of this construction over other steps consist in the fact that I am enabled to make the frame little if any larger than is required for a single step, the step D practically taking up no room in the frame.

While it is preferable to connect the door to the slide to operate the steps by the movement of the door, such arrangement is not essential, as the step C may be opened by the hand, the movement of which will also throw out the step D; or the step D only may be connected to the slide to operate with the door and the step C to operate by hand; I therefore do not wish to confine myself to the combined simultaneous movement of both steps by the opening and closing of the door; but

I do claim as my invention—

1. The arrangement of the transverse sliding step D, combined with a slide, *e*, and its connection G, for operating the said step, substantially as described.

2. The combination of the transverse sliding step D and the folding step C, arranged in the frame A, with a slide, *e*, and connecting-rod F, substantially in the manner described.

GEO. GREGORY.

Witnesses:

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JOHN H. SHUMWAY.